ZS-D5

SERVICE MANUAL

Ver 1.3 2000.2
With SUPPLEMENT (9-923-270-82)



US Model
Canadian Model
AEP Model
UK Model
E Model

CD Section	Model Name Using Similar Mechanism	New
	Optical Pick-up Name	KSM-213CDM/M-S
Tape deck Section	Model Name Using Similar Mechanism	PMC-303
	Tape Transport Mechanism Type	MF-D55-144

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS
POWER OUTPUT AND TOTAL HARMONIC DISTORTION
With 3-ohm load, both channel driven from 150 - 15,000 Hz; rated 3 W per channel-minimum RAM power, with no more than 10 % total harmonic distortion in AC operation.

Other Specifications
CD player section

System	Compact disc digital audio system
Laser diode properties	Material: GaALAs Wave length : 780 nm Emission duration: Continuous Laser output: Less than 44.6 µW (This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block with 7 mm aperture.)
Spindle speed	200 r/min (rpm) to 500 r/min (rpm) (CLV)
Number of channels	2
Frequency response	20 - 20,000 Hz +0/-1dB
Wow and flutter	Below measurable limit

Radio section

Frequency range	
US, Canadian	FM: 87.6 - 108 MHz AM: 530 - 1,710 kHz
AEP, UK, E	FM: 87.5 - 108 MHz (Italy) FM: 87.6 - 107 MHz (Other countries) MW: 531 - 1,602 kHz LW: 153 - 279 kHz
Aerials	FM: Telescopic aerial AM: Built-in ferrite bar aerial

Cassette-corder section

Recording system	4-track 2 channel stereo
Fast winding time	Approx. 120s (sec.) with Sony cassette C-60
Frequency response	TYPE1 (normal): 50 - 15,000 Hz

General

Speaker	Full range: 8 cm (3 1/4in.) dia., 3 Ω, cone type x 2
Input	LINE IN jack (stereo minijack) Minimum input level 250 mV
Outputs	Headphones jack (stereo minijack) For 16 - 68 Ω impedance headphones LINE OUT jack (stereo minijack) Rated output level 250 mV at load impedance 47 kΩ OPTICAL DIGITAL OUT (CD) (optical output connector) Wavelength: 630 - 690 nm
Power output (excluding U.S. model)	4.5 W + 4.5 W (3 ohms at 10 % harmonic distortion in DC operation)
Power requirements	For personal component system: 120 V AC, 60 Hz 12 V DC, 8 size D (R20) batteries For memory back-up: 6 V DC, 4 size AA (R6) batteries For remote commander: 3 V DC, 2 size AA (R6) batteries
Power consumption	AC 25 W

— Continued on next page —

MICROFILM

PERSONAL AUDIO SYSTEM

SONY®

TABLE OF CONTENTS

Battery life

For CD radio cassette-corder
FM recording
Sony R20P: approx. 6 h
Sony alkaline LR20: approx. 12h
Tape playback
Sony R20P: approx. 3h
Sony alkaline LR20: approx. 6h
CD playback
Sony R20P: approx. 1.5 h
Sony alkaline LR20: approx. 3h

Dimmensions (incl. projecting parts)
Approx. 416 x 198.5 x 246 mm (w/h/d)
(16 1/2 x 7 7/8 x 9 3/4 inches)
Mass (incl. batteries) Approx. 5.2 kg (11 lb. 7 oz)
Supplied accessories AC power cord (1)
Remote commander (1)

Design and specifications are subject to change without notice.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer: Check the antenna terminals, metal trim, “metallized” knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microamperes). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers’ instructions to use these instruments.

2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.

3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The “limit” indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

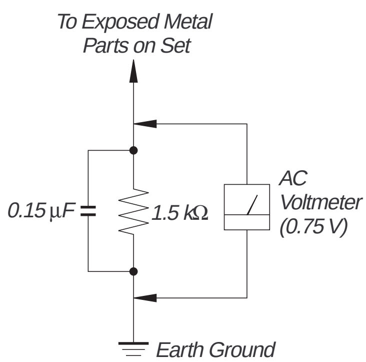


Fig. A. Using an AC voltmeter to check AC leakage.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

SECTION 1
SERVICING NOTE

The laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

CLASS 1 LASER PRODUCT
LUOKAN 1 LASERLAITE
KLASS 1 LASERAPPARAT

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

The following caution label is located inside the unit.

CAUTION	;	INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL	;	USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDS ÆTTELSE FOR STRÅLING.
VARO!	;	AVATTAESSA JA SUOJALUKITUS OHITETTAESSA DLET ALTTIINA LASERSÄTEILYLLE.
VARNING	;	LASERSTRÅLING NÄR DENNA DEL ÄR OPPNÅD OCH SPÄRREN ÄR URXOPPLAD.
ADVARSEL	;	USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

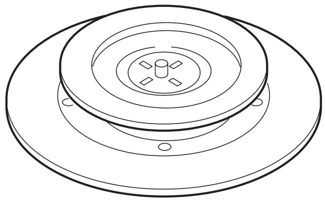
The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

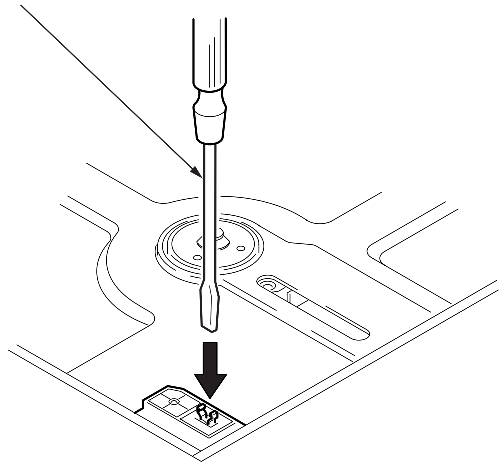
CHUCK PLATE JIG ON REPAIRING

On repairing CD section, playing a disc without the CD lid, use Chuck Plate Jig.
• Code number of Chuck Plate Jig : X-4918-255-1



LASER DIODE AND FOCUS SEARCH OPERATION CHECK

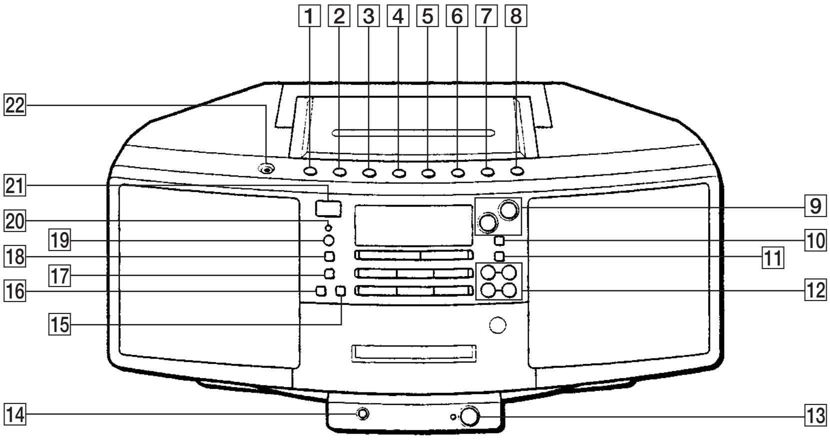
1. Press CD open knob.
2. Open the lid for CD.
3. Push on SWITCH as following figure.
4. Confirm the laser diode emission while observing the objecting lens. When there is no emission, Auto Power Control circuit or Optical Pick-up is broken.
   Objective lens moves up and down once for the focus search.



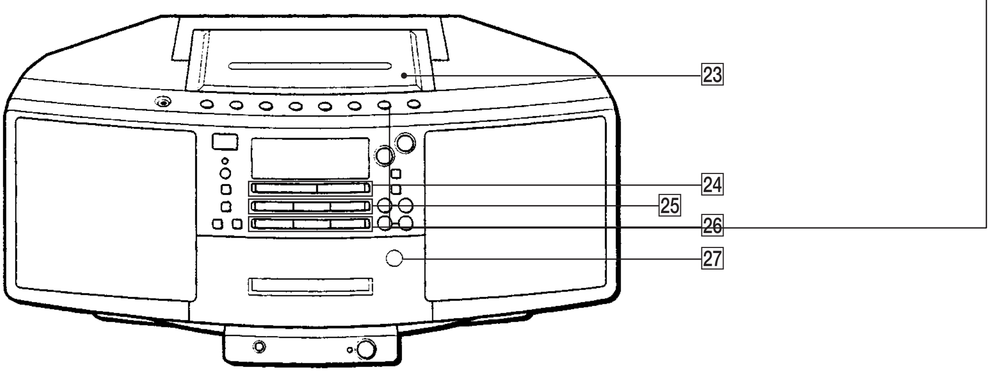
SECTION 2
GENERAL

This section is extracted from instruction manual.

LOCATION OF PARTS AND CONTROLS

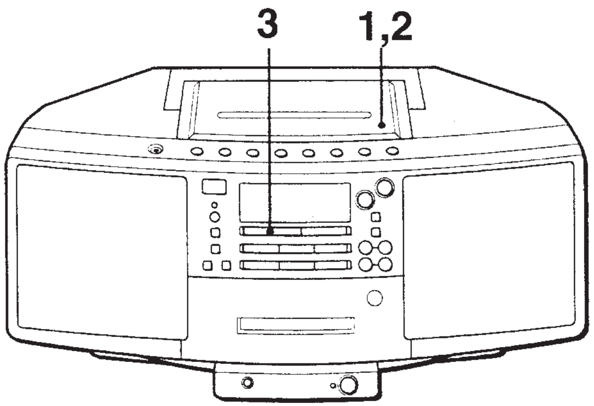


1 MEGA BASS button
2 SOUND button
3 STANDBY button
4 SLEEP button
5 CLOCK button
6 PROGRAM AUTO PRESET CHECK button
7 MODE MONO/ST ISS button
8 CANSEL button
9 VOL button
10 EDIT button
11 DISPLAY ENTER button
12 TUNE/TIME SET button
13 MD (LINE) button
14 OPTICAL DIGITAL OUT (CD)
15 ●/❚❚ button
16 COUNTER RESET button
17 DIR MODE button
18 TIMER button
19 Remote sensor
20 OPR/BATT lamp
21 POWER button
22 🎧



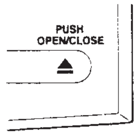
23 PUSH OPEN/CLOSE (CD)
24 CD button
25 RADIO buttons
26 TAPE buttons
27 PUSH OPEN/CLOSE (CASSETTE)

Playing a CD

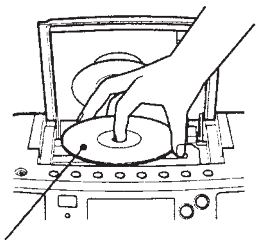


Connect the supplied AC power cord (see page 34.)

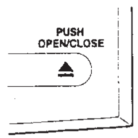
1



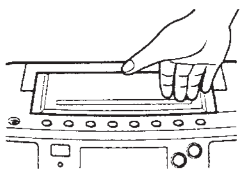
Press ≜ PUSH OPEN/CLOSE and place the CD on the CD compartment.



2



Close the CD compartment.



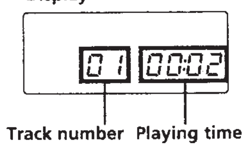
3



Press ▶II.
(On the remote, press ▶ on the CD section.)

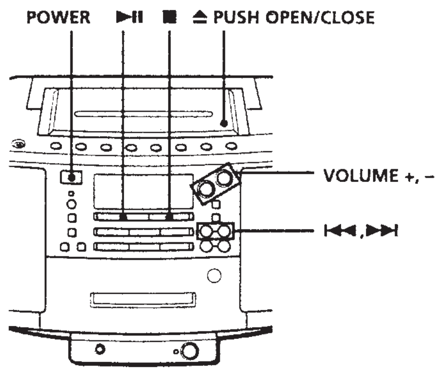
The player turns on (direct power-on) and the player plays all the tracks once.

Display



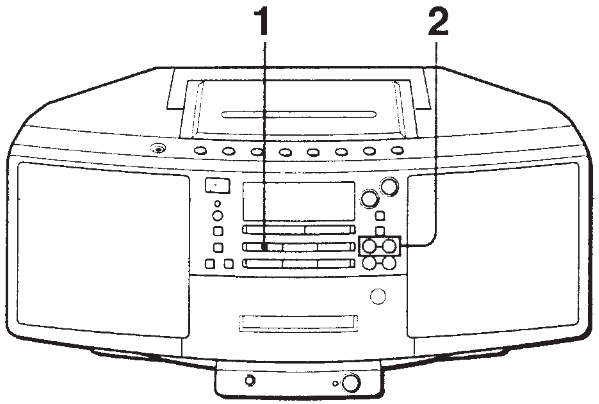
Tip
Next time you want to listen to a CD, just press ▶II. The player turns on automatically and starts playing the CD.

Use these buttons for additional operations



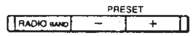
To	Press
Adjust the volume	VOLUME +, –
Stop playback	■
Pause playback	▶II (On the remote, press II.) Press again to resume play after pause.
Go to the next track	▶▶I
Go back to the previous track	I◀◀
Remove the CD	≜ PUSH OPEN/CLOSE
Turn on/off the player	POWER

Listening to the radio



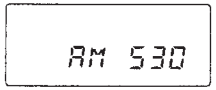
Connect the supplied AC power cord (see page 34.)

1



Press BAND until the band you want appears in the display (direct power-on).

Display



2

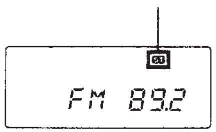


Hold down TUNE/TIME SET + or – until the frequency digits begin to change in the display.

The player automatically scans the radio frequencies and stops when it finds a clear station.

If you can't tune in a station, press TUNE/TIME SET + or – until you tune in the station you want.

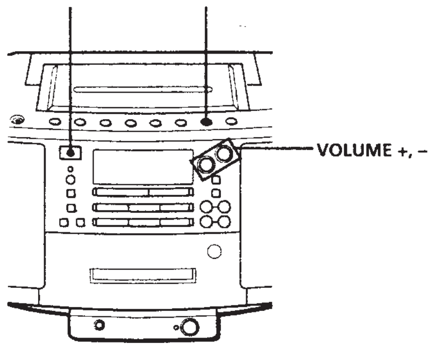
Indicates an FM stereo broadcast.



Tips

- If the FM broadcast is noisy, press MODE•MONO/ST ISS until "Mono" appears in the display and the radio will play in monaural.
- Next time you want to listen to the radio, just press the BAND button. The player turns on automatically and starts playing the previous station.

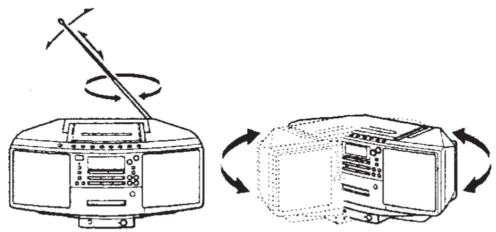
Use these buttons for additional operations



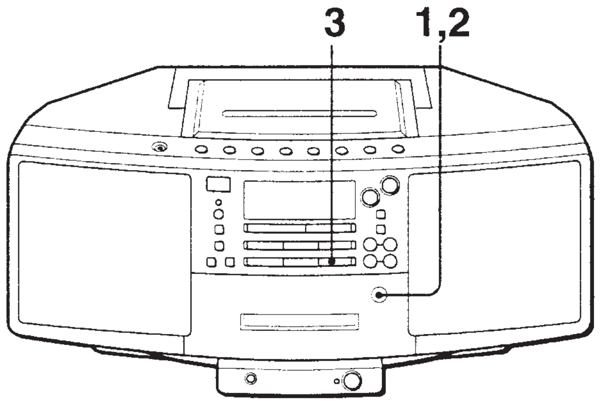
To	Press
Adjust the volume	VOLUME +, –
Turn on/off the radio	POWER

To improve broadcast reception

Reorient the antenna for FM. Reorient the player itself for AM.

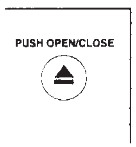


Playing a tape

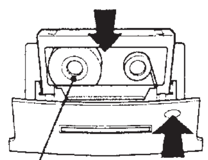


Connect the supplied AC power cord (see page 34.)

1

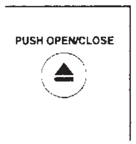


Press ≜ PUSH OPEN/CLOSE to open the tape compartment and insert a recorded tape. Use TYPE I (normal), TYPE II (high position) and TYPE IV (metal) tapes.



With the side you want to play facing forward

2



Press ≜ PUSH OPEN/CLOSE to close the compartment.

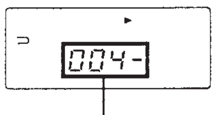
3



Press ►
(On the remote, press TAPE ►.)

The player turns on (direct power-on) and starts playing.

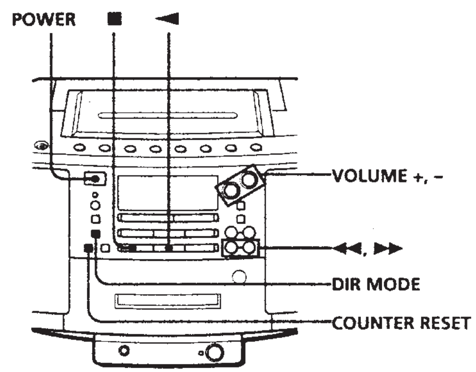
Display



Tape counter

Tips
- Press COUNTER RESET to reset the counter to "000."
- Next time you want to listen to a tape, just press ► or ◄. The player turns on automatically and starts playing the tape.

Use these buttons for additional operations



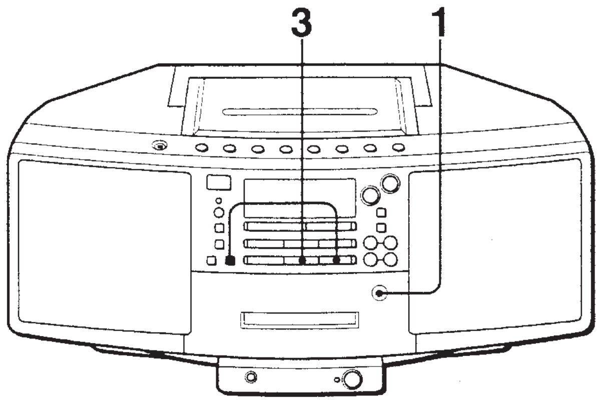
To	Press
Adjust the volume	VOLUME +, –
Stop playback	■
Play the reverse side	◄
Fast-forward or rewind the tape	►► or ◄◄
Eject the cassette	≜ PUSH OPEN/CLOSE
Turn on/off the player	POWER

To select the direction of the tape

Press DIR MODE repeatedly.

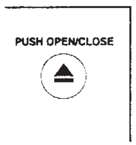
To play	Display shows
One side of the tape	⇄
Both sides of the tape from the front side to reverse side only	⊃
Both sides of the tape repeatedly	⊂⊃

Recording on a tape

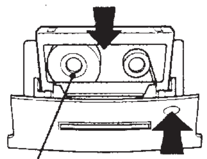


Connect the supplied AC power cord (see page 34.) To record on a MiniDisc or DAT recorder, connect the component (see page 36.)

1



Press ≜ PUSH OPEN/CLOSE to open the tape compartment, and insert a blank tape. Use TYPE I (normal) tape only.
Press ≜ PUSH OPEN/CLOSE again to close the compartment.



2



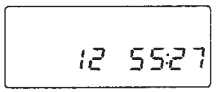
Select the program source you want to record.

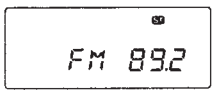
To record from the CD player, insert a CD (see page 4) and press ■ on the CD section.



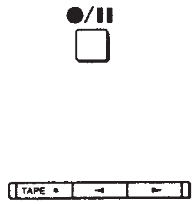
To record from the radio, press BAND and tune in the station you want (see page 6.)

Display





3



Start recording.

Press ●/II and then ►.
To record on the reverse side, press ◄. (On the remote, while keeping ●/II pressed, press TAPE ► or ◄.)

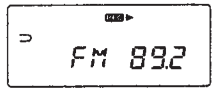
To record from the CD player, press ►II to start playing the CD tracks. (On the remote, press ► on the CD section.)

Note
On the player, press ► within 4 seconds after ●/II is pressed.

Recording from the CD player



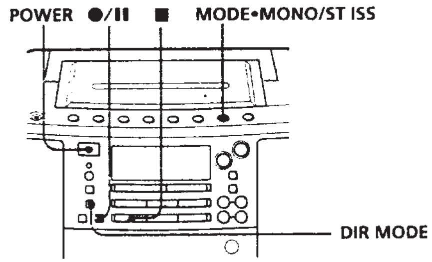
Recording from the radio



Tips

- Adjusting the volume or the audio emphasis (see page 39) will not affect the recording level.
- When ⊐ or ⊏⊐ is displayed, recording will be made on both sides of the tape. To record on one side, press DIR MODE to display ⇌.
- If the AM radio makes a whistling sound after you've pressed ●/II in step 3, press MODE•MONO/ST ISS to select the position that most decreases the noise.

Use these buttons for additional operations



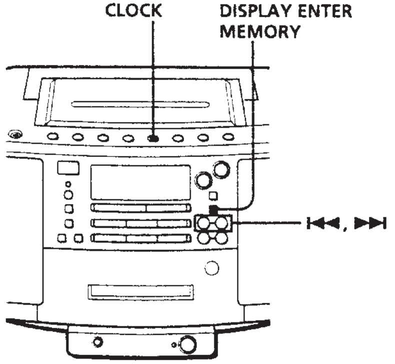
To	Press
Stop recording	■
Pause recording	●/II Press the button again to resume recording.
Turn on/off the player	POWER

To erase a recording, proceed as follows:

1 Insert a tape you want to erase its recording into tape deck and press ■ on the tape section.
2 On the player: press ●/II and then ►.
On the remote: While keeping ●/II pressed, press ► on the tape section.

Setting the clock

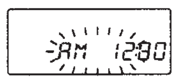
"--:--" indication appears in the display until you set the clock.



Tips
- The time display system of this player is the 12-hour system.
- When you use the AC power cord, ":" flashes as long as the clock goes.

Before you begin, connect to the power source (see pages 34 - 35.)

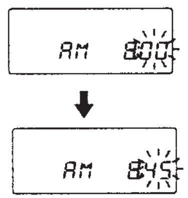
1 Press and hold CLOCK until the hour digit flashes.



2 Set the clock.

① Press ⏮ or ⏭ to set the hour and press DISPLAY ENTER MEMORY.

② Press ⏮ or ⏭ to set the minutes.

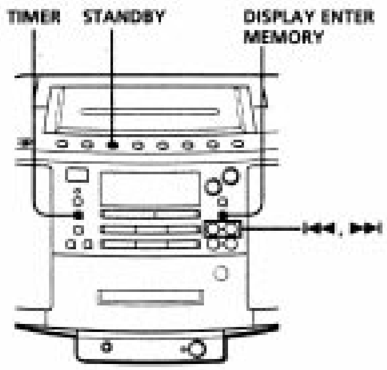


3 Press DISPLAY ENTER MEMORY.

The clock starts from 00 seconds.

Waking up to music

You can wake up to music or a radio program at a preset time. Make sure you have set the clock ("Setting the clock" on page 28).



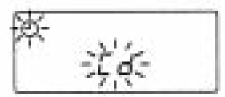
Before you begin, make sure the ⏲ (clock) indication is not lit in the display. If it is lit, press STANDBY.

1 Prepare the music source you want to play.

Source	Do this
Cd	Insert a CD.
RAdIO	Tune in a station.
TAPE	Insert a tape.
LINE	Turn on the equipment connected to LINE.

2 Press TIMER to display the ⏲ indication.

Do the following operations by checking the display.



3 Press ⏮ or ⏭ until the music source you want to play ("Cd", "TAPE", "RAdIO" or "LINE") appears in the display, and press DISPLAY ENTER MEMORY.

continued

Waking up to music (continued)

Tip
If you made a mistake, press CANCEL. The setting entered last will be cleared. Re-enter it.

4 Set the timer to the hour and the minutes you want the music to go on.

① Press ⏮ or ⏭ to set the hour and press DISPLAY ENTER MEMORY.



② Press ⏮ or ⏭ to set the minutes, and press DISPLAY ENTER MEMORY.

5 Set the timer to the hour and the minutes you want the music to go off (Do as step 4.).

6 Press ⏮ or ⏭ to set the volume you want, and press DISPLAY ENTER MEMORY.



7 Press STANDBY.

The ⊕ indication lights up and the power goes off; the player enters the standby mode.

At the preset time, the power will go on and music will play. Then the power will go off at the preset time, and the player will enter the standby mode again.

Tips
- To exit the standby mode, press STANDBY to make the ⊕ indication disappear.
- The preset settings remain until you reset them.
- The display window does not light while the waking up timer is on.

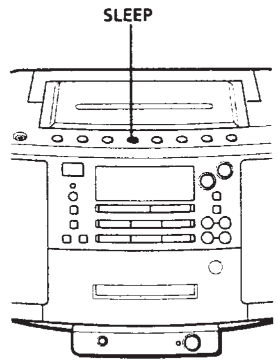
To check/change the waking up timer settings
Press TIMER, then DISPLAY ENTER MEMORY. Each time you press DISPLAY ENTER MEMORY, a stored setting is displayed in the set order. To change the setting, display the setting you want to change and re-enter it.

To use the player before a timer playback starts
If you turn on the player, you can use it as usual (in case of the radio, if you listen to the station which is different from the one you tuned in step 1 on page 29, you will hear that station at the preset time.) Turn off the player before the preset time.

To stop play
Turn off the power.

Falling asleep to music

You can set the player to turn off automatically after 10, 20, 30, 60, 90 and 120 minutes, allowing you to fall asleep while listening to music.



1 Play the music source you want.

2 Press SLEEP to display "SLEEP."

3 Press SLEEP to select the minutes when the player goes off automatically.

Each time you press the button, the indication changes as follows: "10" → "20" → "30" → "60" → "90" → "120" → no indication.



If 4 seconds have passed after you pressed SLEEP, the minutes in the display are stored in memory.

When the preset time has passed, music stops and the player goes off automatically.

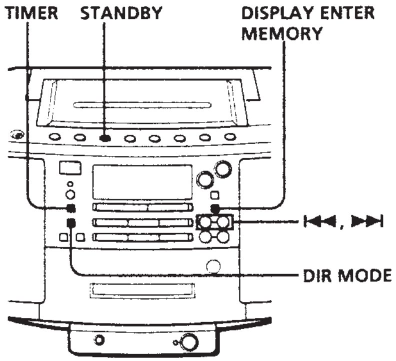
Tips
- The display window does not light while the sleeping timer is on.
- You can combine the waking up timer with the sleeping timer. Set the waking up timer first (see page 29), turn on the power, and then set the sleeping timer.
- You can prepare the different music for the waking up timer and the sleeping timer. However, you cannot, store different radio stations.
- You can set different volume for the waking up timer and the sleeping timer. For instance, you can sleep at lower volume and wake up at higher volume.

To cancel the sleep function
Press SLEEP to make "SLEEP" disappear from the display.

To change the preset time
Do the steps 2 and 3 again.

Timer-recording radio programs

You can set timer to record the radio at a certain time. You can also record the sound of the component connected to the LINE IN jack, using the timer. Make sure you have set the clock (see "Setting the clock" on page 28).



Note
You cannot preset recording timer and waking up timer (page 29) at the same time.

Tips
- We recommend that you use AC power as the power source for optimum recording quality.
- When you receive the AM program in step 1, press ●/❚❚ to check if the noise is heard. If so, press MODE•MONO/ST ISS to select the position that most decreases the noise.

Before you begin, make sure the ⊙ (clock) indication is not lit in the display. If it is lit, press STANDBY.

1 Tune in the radio station and insert a blank tape into the tape compartment with the side you want to record on facing forward.

2 Press DIR MODE to select recording direction of the tape.

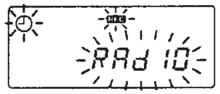
	display
One side	⇄
Both sides	⊃

3 Press TIMER to display the ⊙ indication.

Do the following operations by checking the display window.



4 Press ◀◀ or ▶▶ to display "RAdIO" "REC," and press DISPLAY ENTER MEMORY.



Tip
If you made a mistake, press CANCEL. The setting entered last will be cleared. Re-enter it.

Tips
- To exit the standby mode, press STANDBY twice to make the ⊙ indication disappear.
- The preset settings remain until you reset them.
- When you select both sides recording, the recording will stop after the both sides recording finishes so that accidental recording will not be made.
- The display window does not light while the recording timer is on.

5 Set the timer to the hour and the minutes you want to start recording.

① Press ◀◀ or ▶▶ to set the hour and press DISPLAY ENTER MEMORY.



② Press ◀◀ or ▶▶ to set the minutes, and press DISPLAY ENTER MEMORY.

6 Set the timer to the hour and the minutes you want to stop recording. (Do as step 5.)

7 Press ◀◀ or ▶▶ to set the volume you want, and press DISPLAY ENTER MEMORY.



8 Press STANDBY.

The power goes off and the player enters the standby mode. The ⊙ indication and the recording side of the tape (front side ▶ or reverse side ◀) appear in the display. To change the recording side, press STANDBY again.

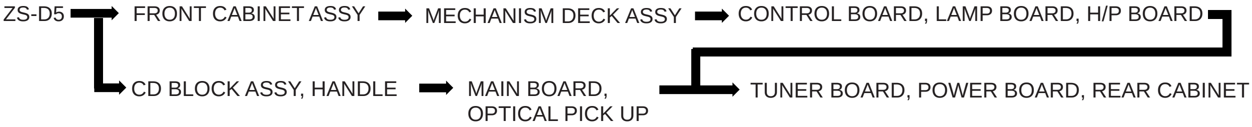
At the preset time, the power will go on and the recording will start. Then the power will go off at the preset time, and the player will enter the standby mode again.

To check/change the recording timer settings
Press TIMER, then DISPLAY ENTER MEMORY. Each time you press DISPLAY ENTER MEMORY, a stored setting is displayed in the set order. To change the setting, display the setting you want to change and re-enter it.

To use the player before a timer-recording starts
If you turn on the player, you can use it as usual. Before the preset time, tune in the station you want to record and turn off the power.

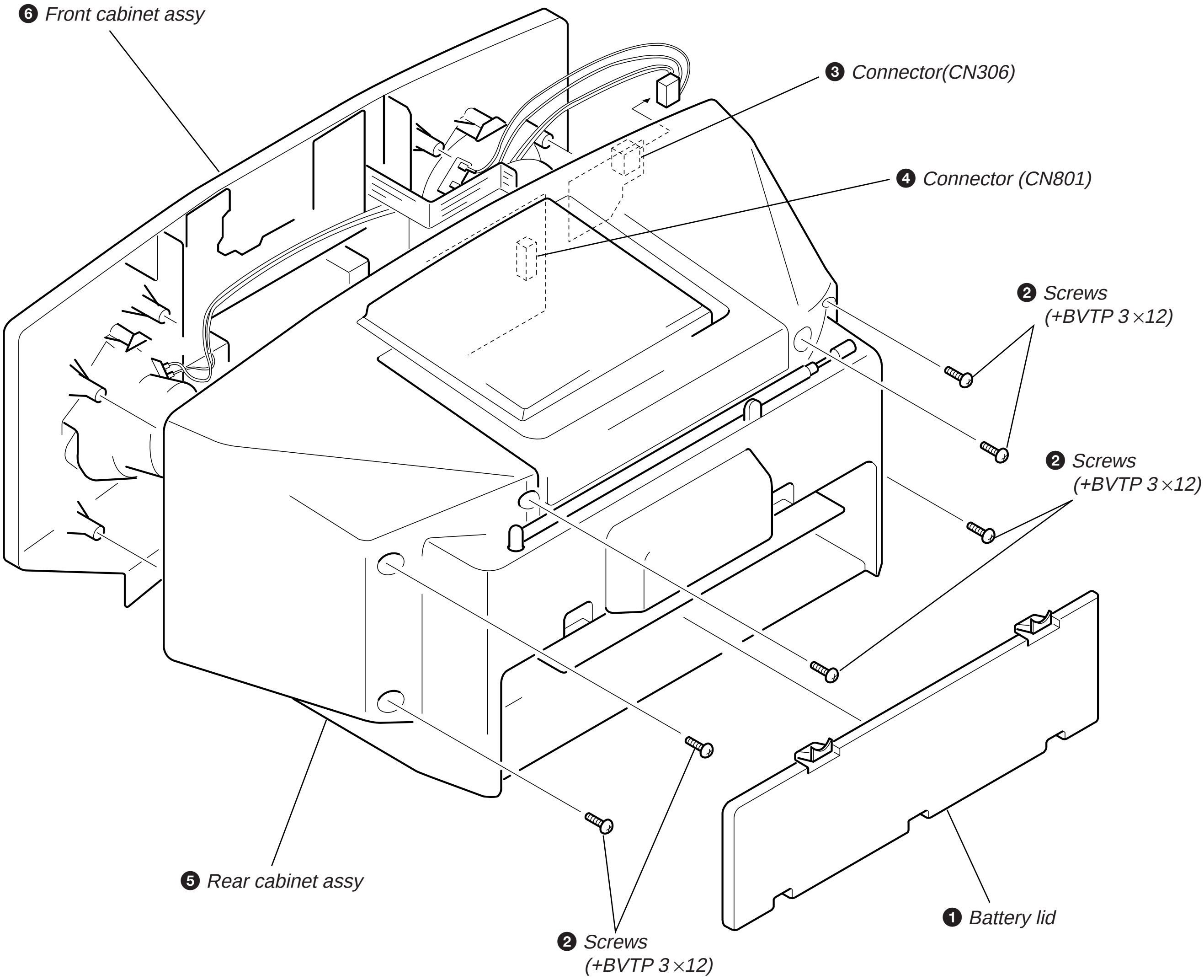
To stop timer-recording
Turn off the power.

SECTION 3
DISASSEMBLY

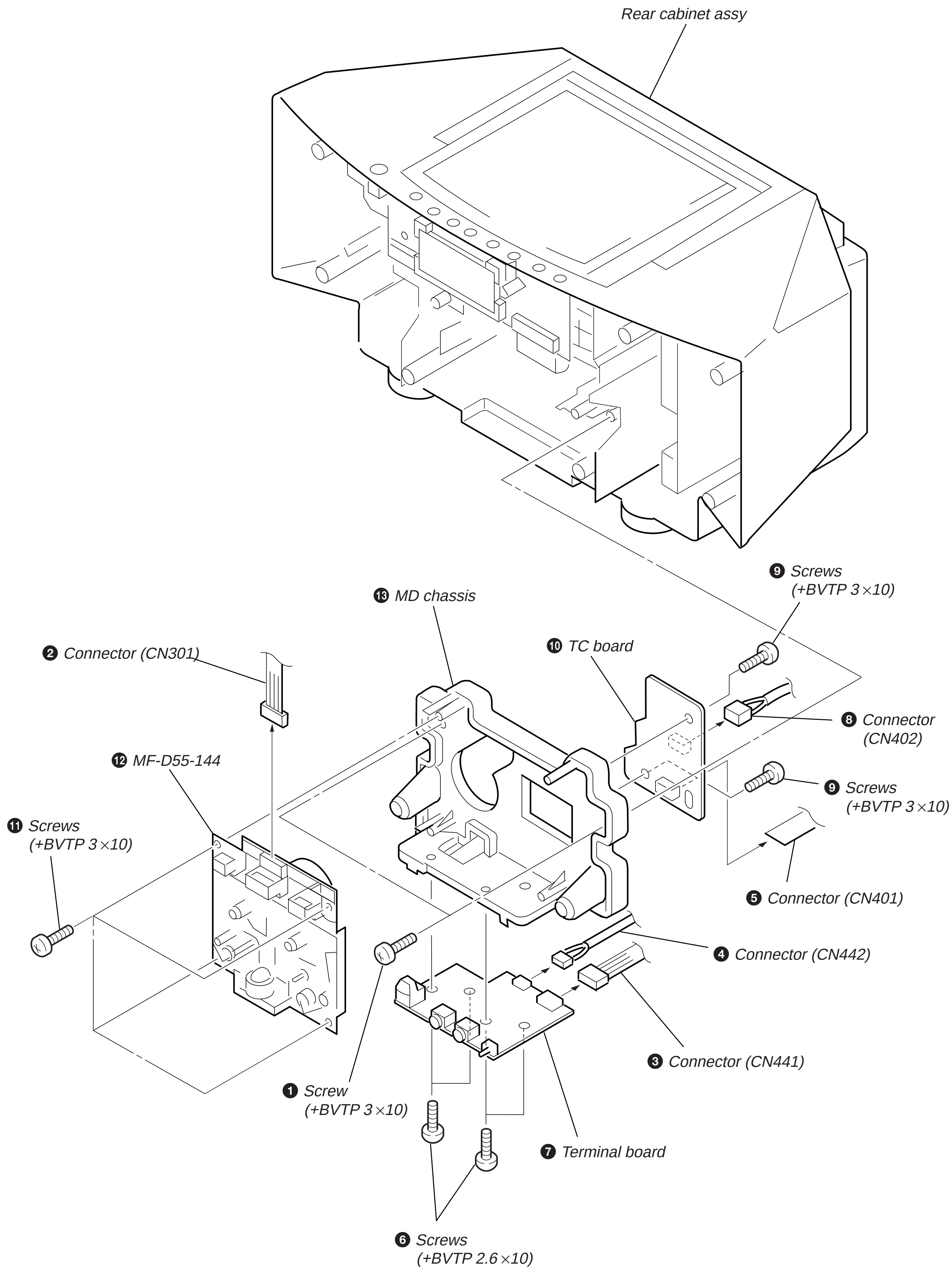


Note : Follow the disassembly procedure in the numerical order given.

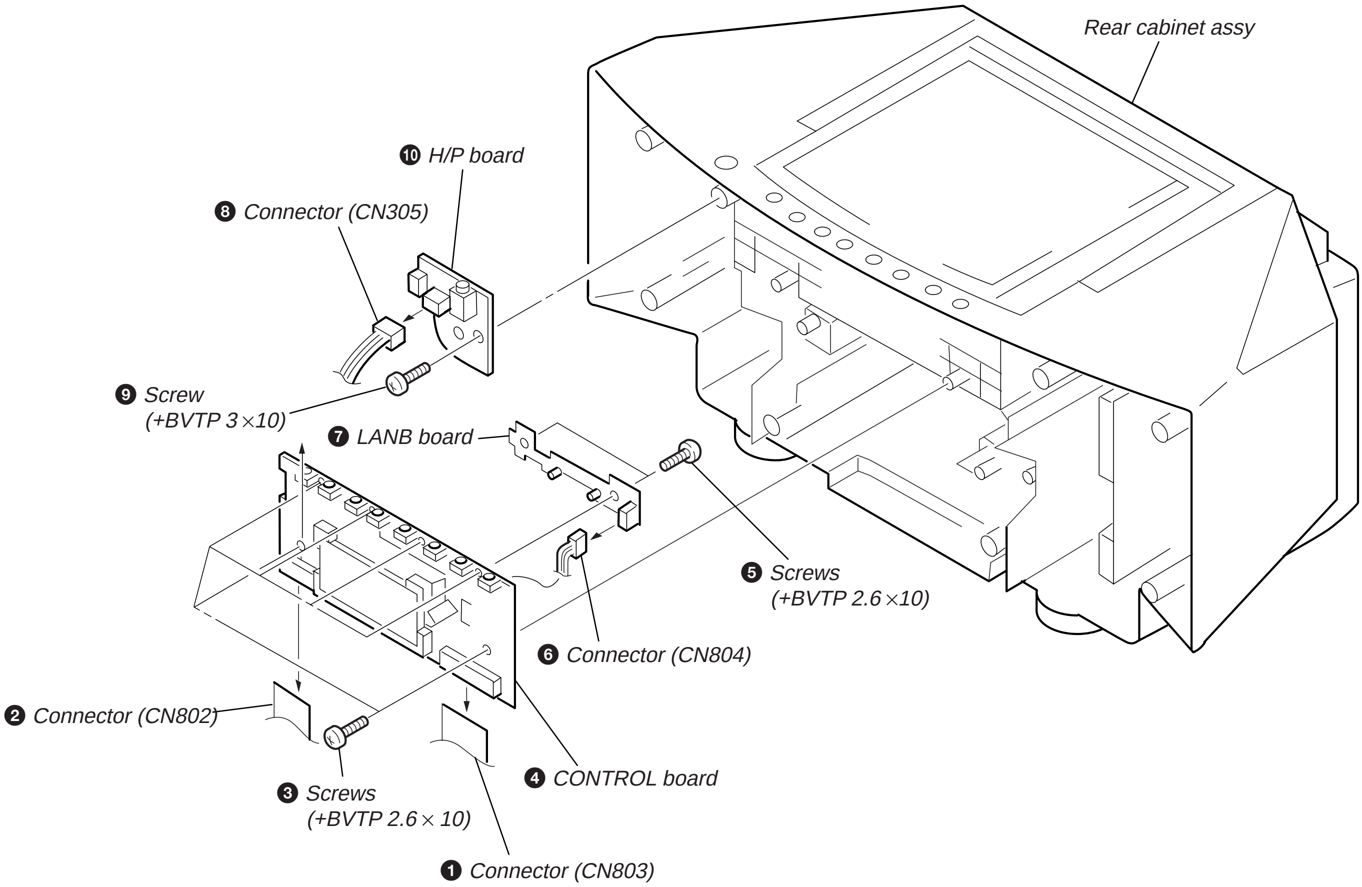
3-1. FRONT CABINET ASSY



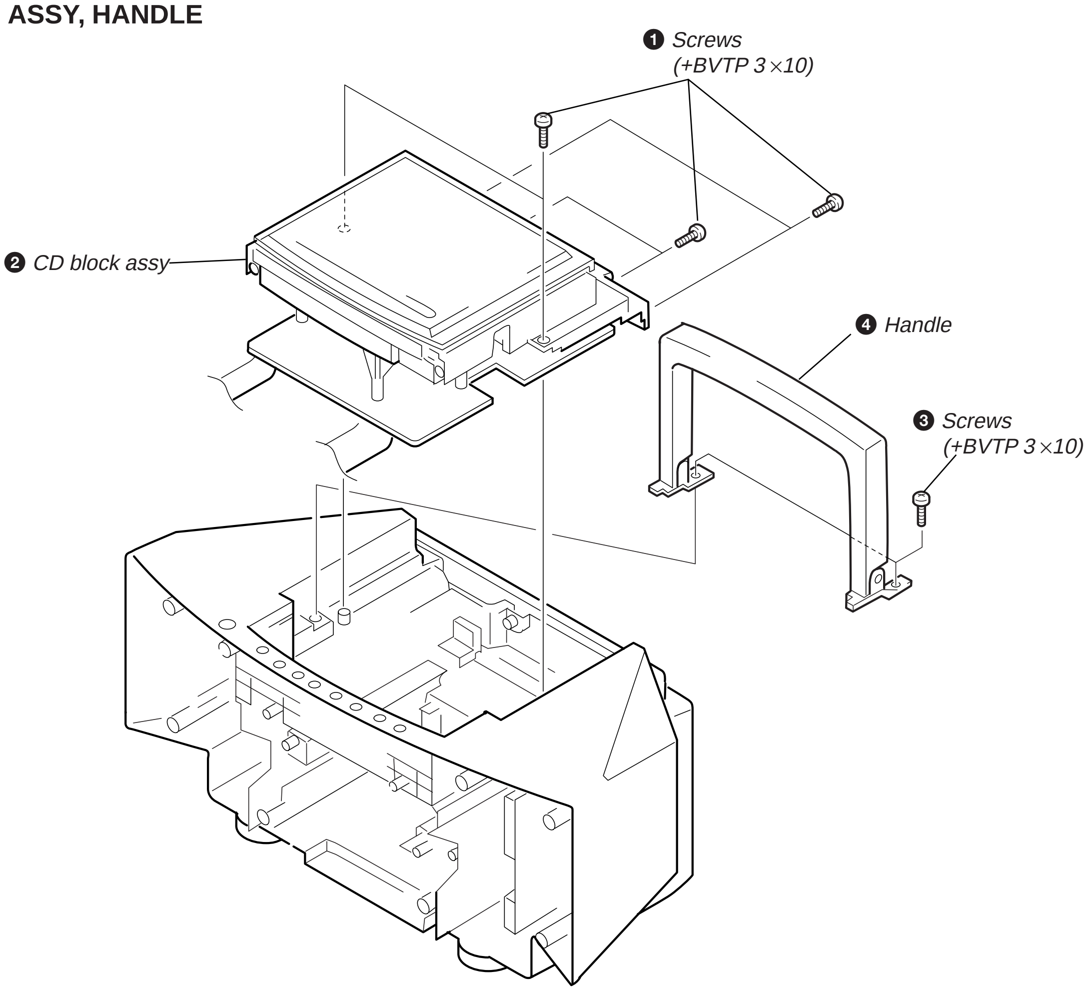
3-2. MECHANISM ASSY



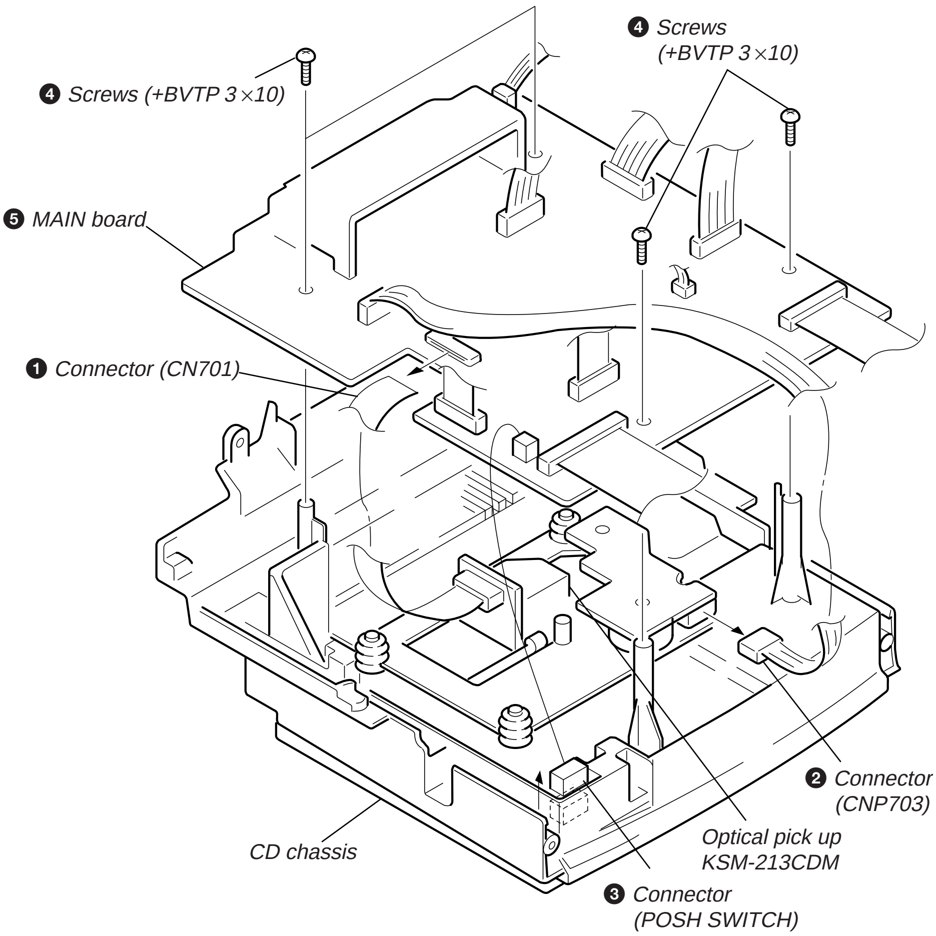
3-3. CONTROL BOARD, LAMP BOARD, H/P BOARD



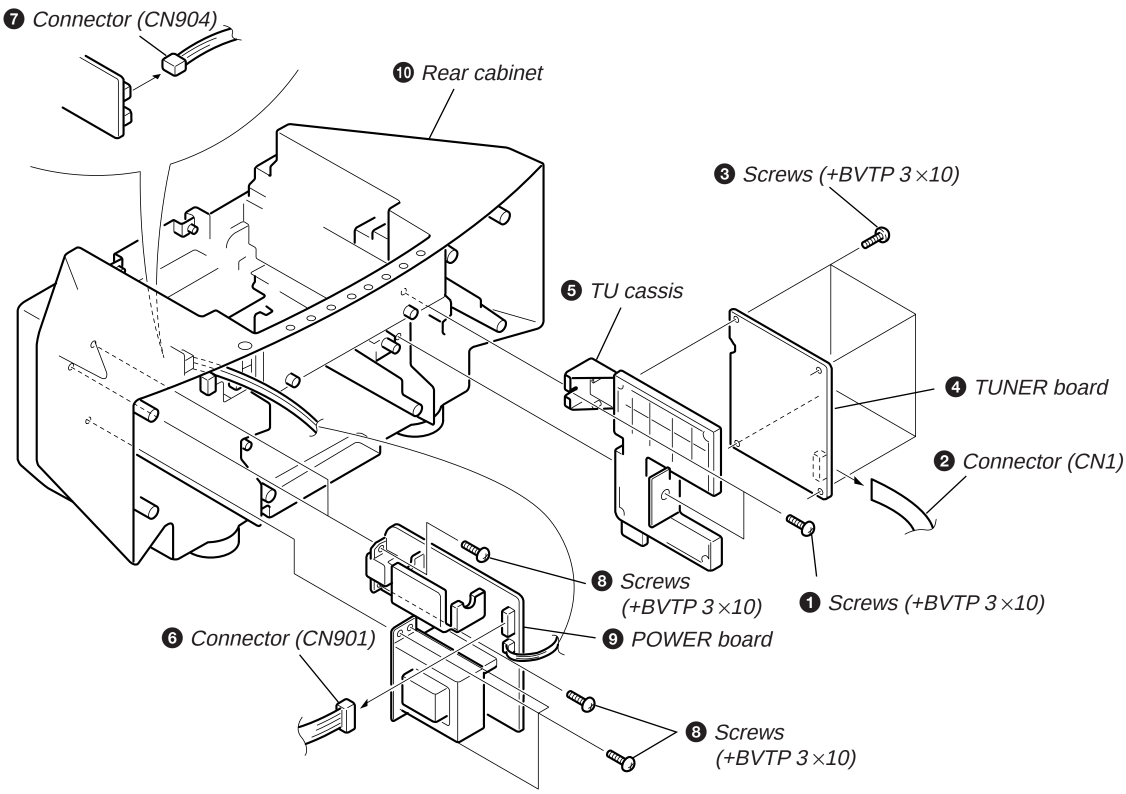
3-4. CD BLOCK ASSY, HANDLE



3-5. MAIN BOARD, OPTICAL PICK UP



3-6. TUNER BOARD, POWER BOARD, REAR CABINET

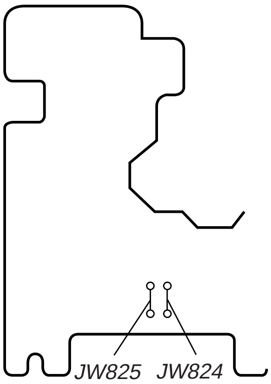


SECTION 4
TEST MODE

1. HOW TO ENTER THE TEST MODE

Turn on the main power. While the machine is in the CD STOP state, short-circuit JW824 and JW825 on the SWITCH board once. (Turn off the main power to exit the test mode.)

[SWITCH Board] – Soldering Side –



2. RF Level and Jitter Check

• Measurement Point
MAIN board (see page 9)
Vref (JW126) and RF Signal (JW135)
(Confirm by oscilloscope)

• Procedure
(1) Press the CD key → Press the DISPLAY ENTER MEMORY key.
(2) Confirm that display on LCD changes as follows.

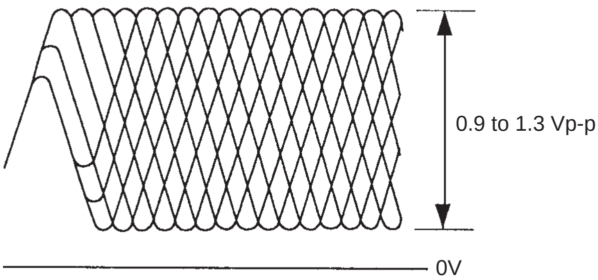
[F– CHECK] → [–F CHECK] → [ALL 88 88]

(Indication that automatic adjustment is completed)

(3) Press the EDIT key. (APC OFF)

[88 88] The display ALL disappears.

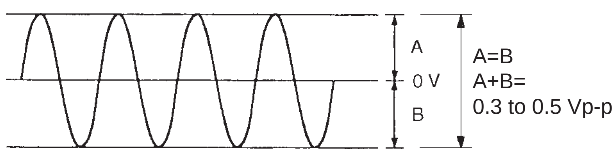
(4) Confirm that jitter is 9.0 ns or less. Confirm also that the RF level is from 0.9 to 1.3 Vp-p.



3. Traverse Signal Check

• Measurement Point:
MAIN board (see page 9)
Vref (JW126) and TE Signal (IC701 pin ㊼)
(Confirm by oscilloscope)

• Procedure
(1) Press the I◀◀ or ▶▶I key.
(2) Check that the traverse level is from 0.3 to 0.5 Vp-p.



SECTION 5
MECHANICAL ADJUSTMENT

PRECAUTION

1. Clean the following parts with a denatured-alchool-moistened swab:
   record/playback head   pinch roller
   erase head   rubber belts
   capstans
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjusted.
4. The adjustments should be performed with the raged power supply voltage unless otherwise noted.

Torque Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-102C	36 to 61 g•cm (0.504 to 0.854 oz•inch)
FWD back tension	CQ-102C	2 to 6 g•cm (0.028 to 0.084 oz•inch)
REV	CQ-102RC	36 to 61 g•cm (0.504 to 0.854 oz•inch)
REW back tension	CQ-102RC	2 to 6 g•cm (0.028 to 0.084 oz•inch)
FF • REW	CQ-201B	61 to 143 g•cm (0.854 to 2.002 oz•inch)

Tape Tension Measurement

Mode	Torque Meter	Meter Reading
FWD	CQ-403A	more than 100 g•cm (more than 1.38 oz • inch)
REV	CQ-403R	more than 100 g•cm (more than 1.38 oz • inch)

SECTION 6
ELECTRICAL ADJUSTMENT

PRECAUTION

1. Perform adjustments in the test mode.
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjust.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
6. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
7. The adjustments should be performed for both L-CH and R-CH.

- **Standard Record:**

Deliver the standard input signal level to the input jack and set the VOLUME +/– keys to obtain the standard input and output signal level.

- **Standard input level**

Input Pin	LINE IN
Signal source impedance	10 kΩ
Input signal level	0.25 V (–9.8 dB)

- **Standard output level**

Output Pin	SP OUT (L, R)	H.P OUT
Load impedance	3.2	32
Output signal level	0.775 V (0 dB)	0.10 V (-18 dB)

- **Test tape**

Test Tape	Signal	Used for
P-4-A100	10 kHz, -10 dB	REC/PB/ERASE Head azimuth and phase adjustment.
WS-48A	3 kHz, 0 dB	Tape speed adjustment

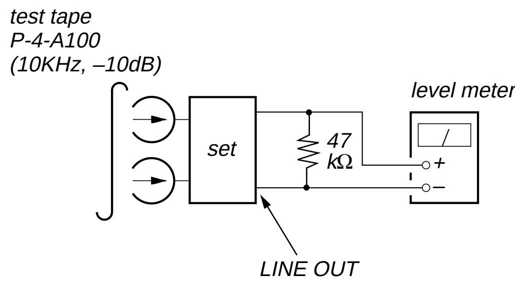
TAPE RECODER SECTION 0 dB = 0.775V

Record/Playback Head Azimuth Adjustment

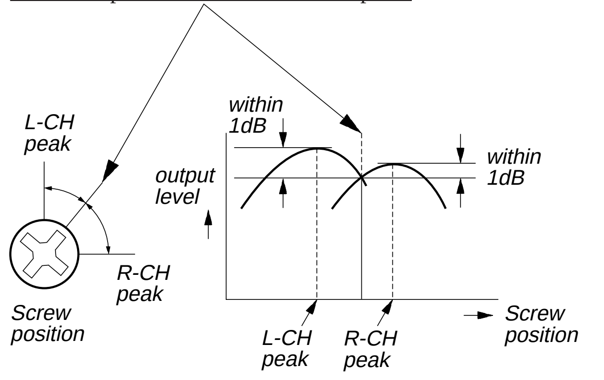
Note: • Start adjustment after head has changed the direction. (When head is positioned in the FWD direction of tape running, start adjustment with REV .)
• The adjustment must be ended with cw turning of adjustment screw.

Procedure:

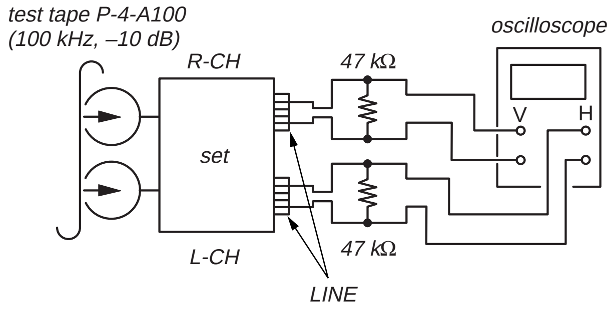
1. Mode : REV playback

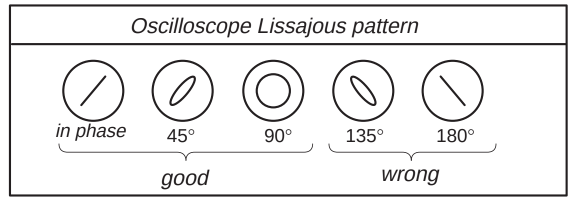


2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 1dB of peak.



3. Phase Check
Mode: REV playback

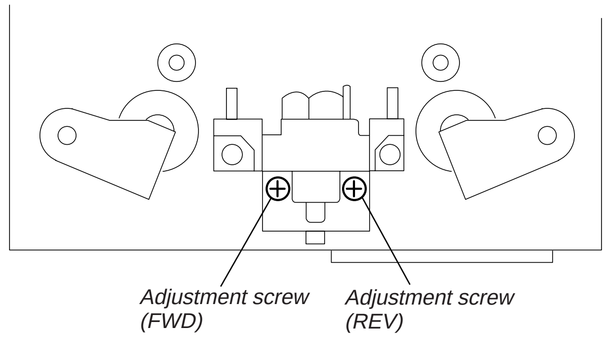




Note: Adjustment must be completed by cw turning of adjustment screw.
After the adjustment, lock the screws with locking compound.

4. Repeat steps 1 to 3 FWD playback mode.
5. Check that phase difference between L-CH and R-CH is from o to 90 degrees.
6. After the adjustments, apply suitable locking compound to the pats adjusted.

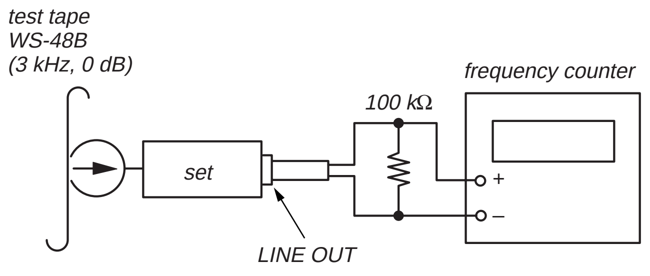
Adjustment Location:



Tape Speed Adjustment

Procedure:

Mode : FWD playback

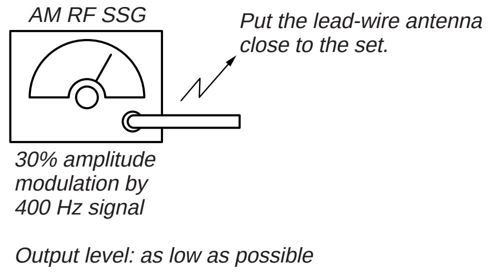


1. Playback the standard tape in FWD mode.
2. Adjust the variable resistor of the motor (M691) until frequency counter reading is from 2,985 to 3,015 Hz.
3. Confirm that the freqency difference between the tape top and end is within 3 %.

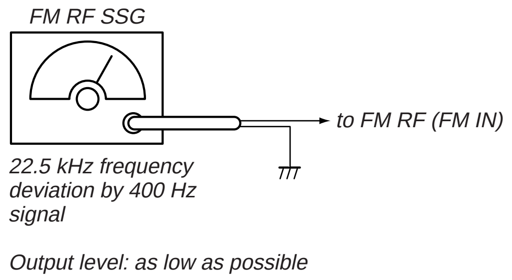
TUNER SECTION 0 dB = 1μV

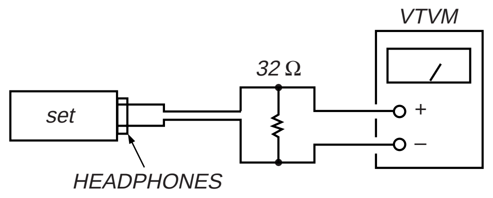
[Setting during adjustment]
Function mode: RADIO
VOLUME: Maximum

- **AM Section**



- **FM section**





- Repeat the proceduresin each adjustment several times for the maximum level meter indication.
- The frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

( ) : US/Canadian model

MW/AM RECEPTION FREQUENCY COVERAGE CHECK		
Frequency indication	531 kHz (530 kHz)	1,611 kHz (1,710 kHZ)
Digital voltmeter reading	0.6 to 1.2 V (0.9 to 1.0 V)	4.5 to 5.5 V (5.2 to 6.2 V)
Adjustment	L4	check

AEP/Italian/UK/E model

LW RECEPTION FREQUENCY COVERAGE CHECK		
Frequency indication	151 kHz	273 kHz
Digital voltmeter reading	0.6 to 0.7 V	4.7 to 5.7 V
Adjustment	CT3	check

( ) : US/Canadian model

MW/AM TRACKING ADJUSTMENT	
Adjust for a maximum defection of level meter.	
L3	CT2
621 kHz (620 kHz)	1,404 kHz (1,400 kHz)

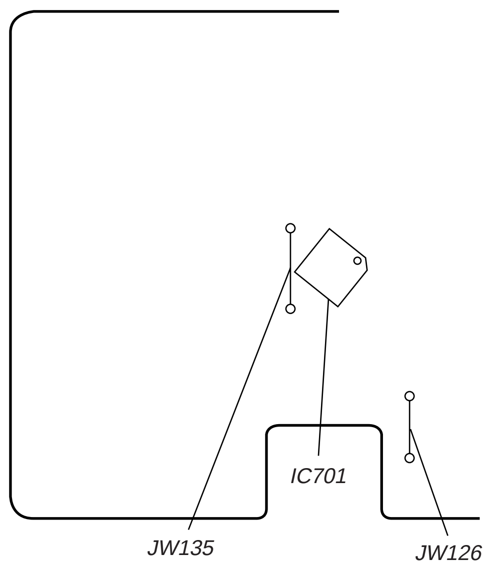
AEP/Italian/UK/E model

LW TRACKING ADJUSTMENT	
Adjust for a maximum defection of level meter.	
L3	CT5
162 kHz	261kHz

FM RECEPTION FREQUENCY COVERAGE CHECK		
Frequency indication	87.5 MHz	108 MHz
Digital voltmeter reading	0.9 to 1.3 V	3.4 to 4.4 V
Adjustment	L2	check

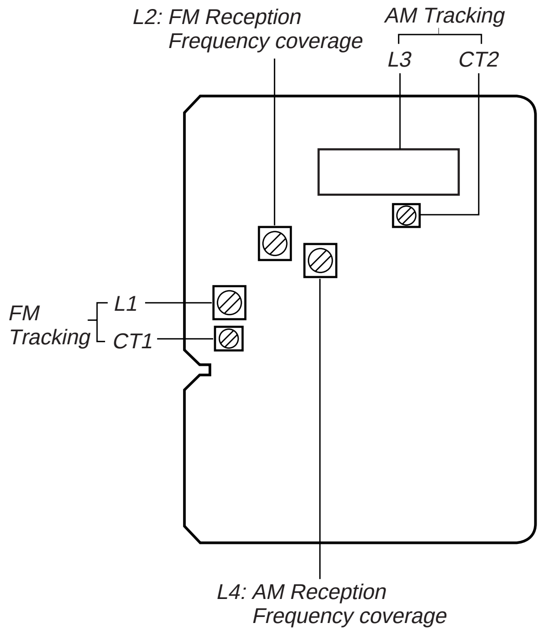
FM TRACKING ADJUSTMENT	
Adjust for a maximum defection of level meter.	
L1	CT1
87.5 MHz	108 MHz

Measurement Point: MAIN board (Side B)

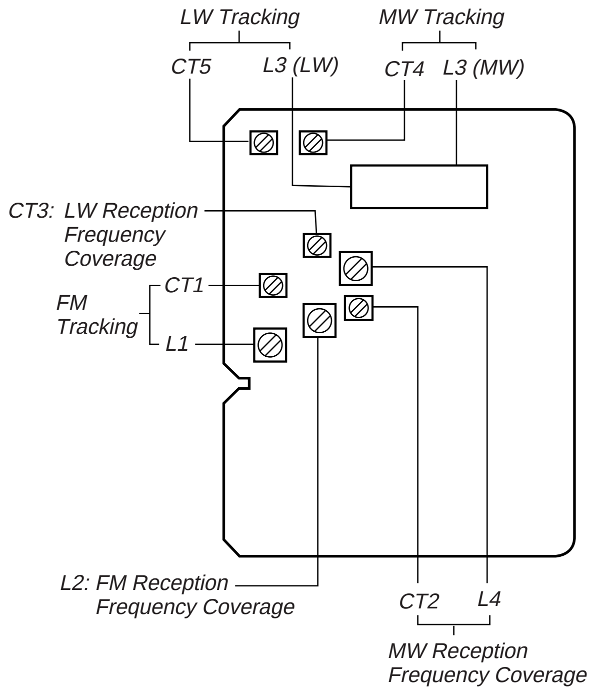


Adjustment Location: TUNER board (Side A)

[US/CND Model]

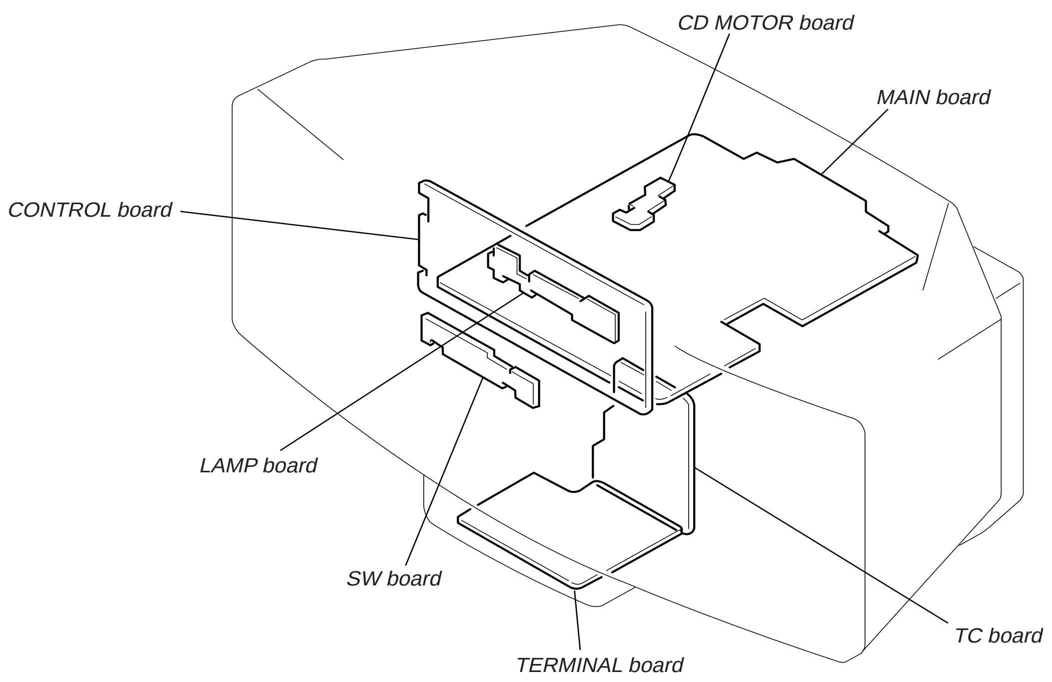


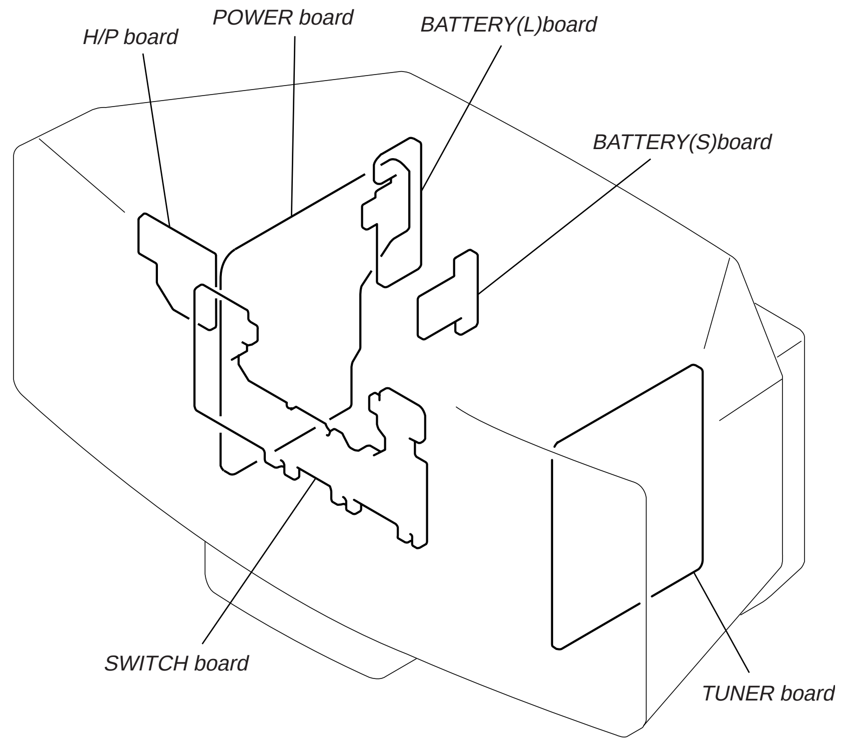
[AEP/IT/UK/E model]



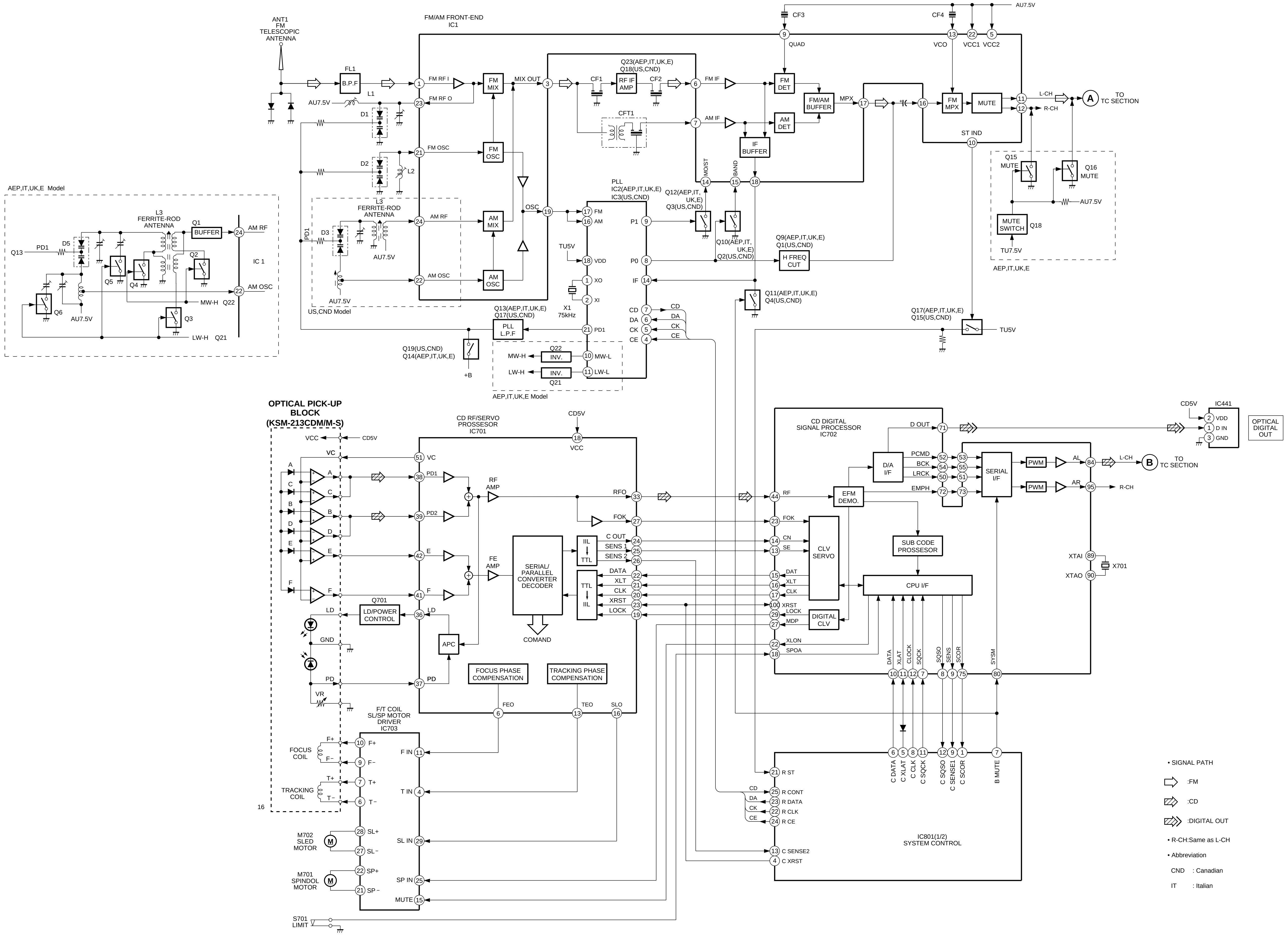
SECTION 7
DIAGRAMS

7-1. CIRCUIT BOARD LOCATION

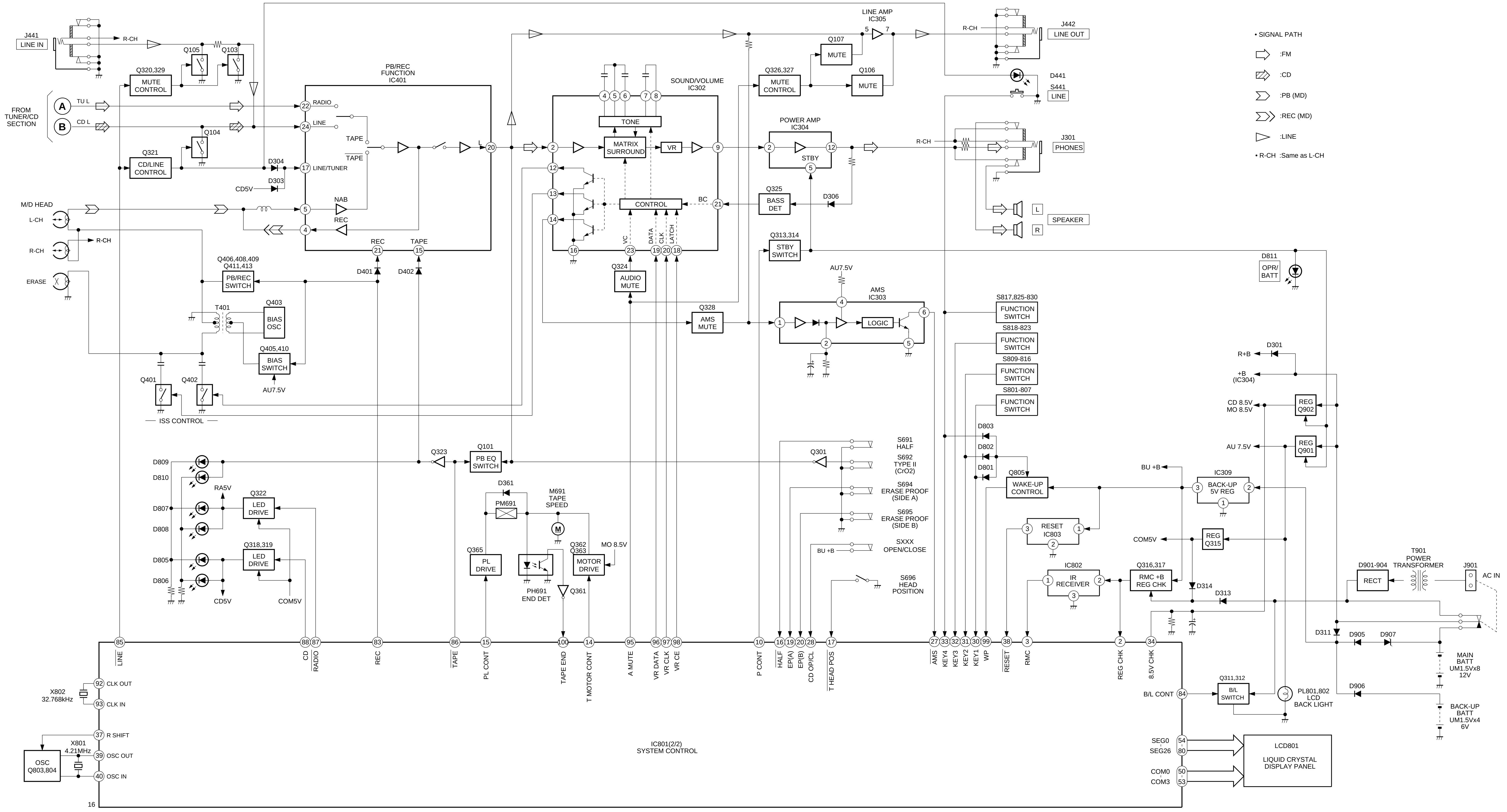




7-2. BLOCK DIAGRAM — TUNER/CD SECTION —



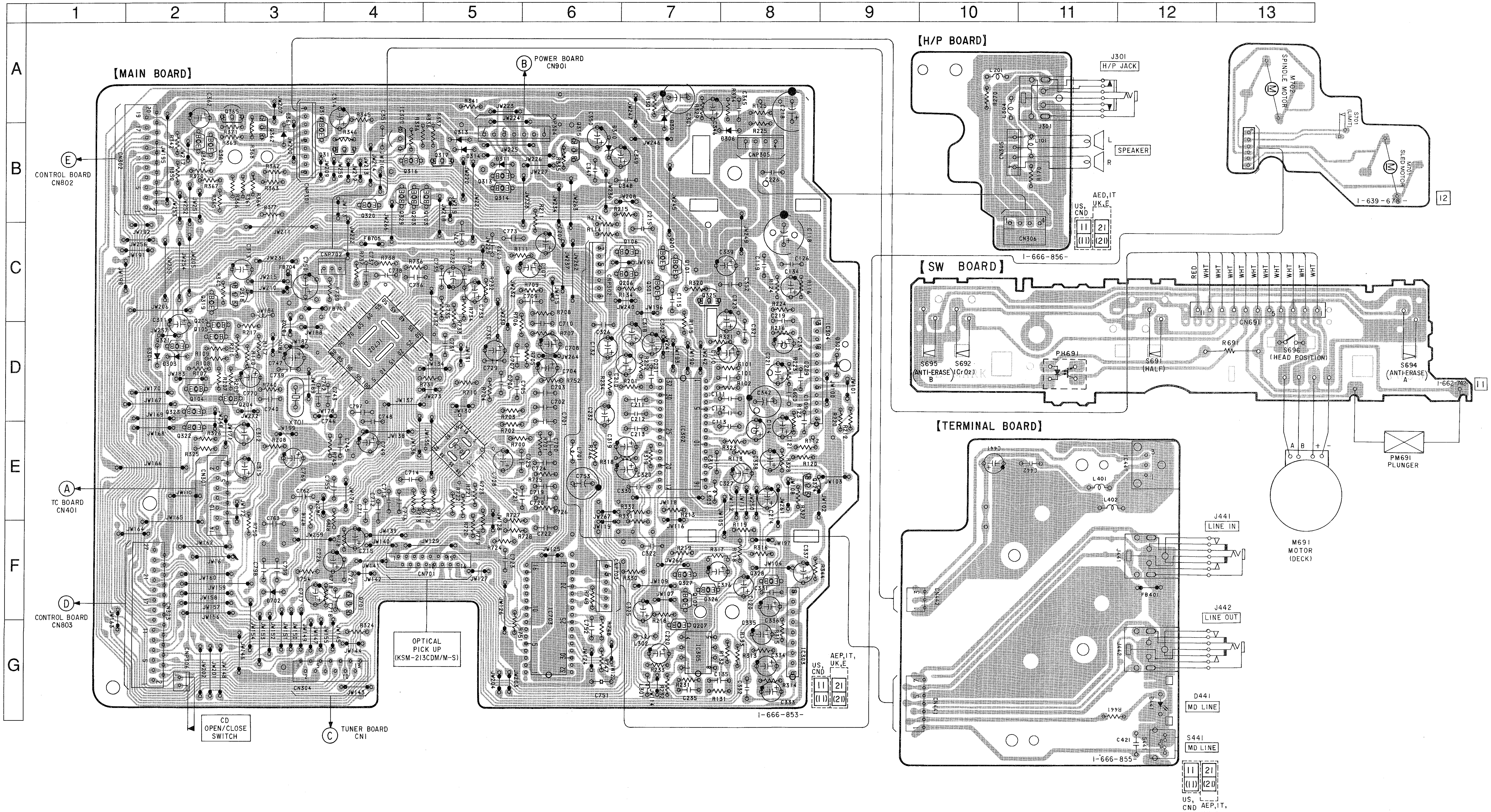
7-3. BLOCK DIAGRAM — TC SECTION —



7-4. PRINTED WIRING BOARD — MAIN SECTION —

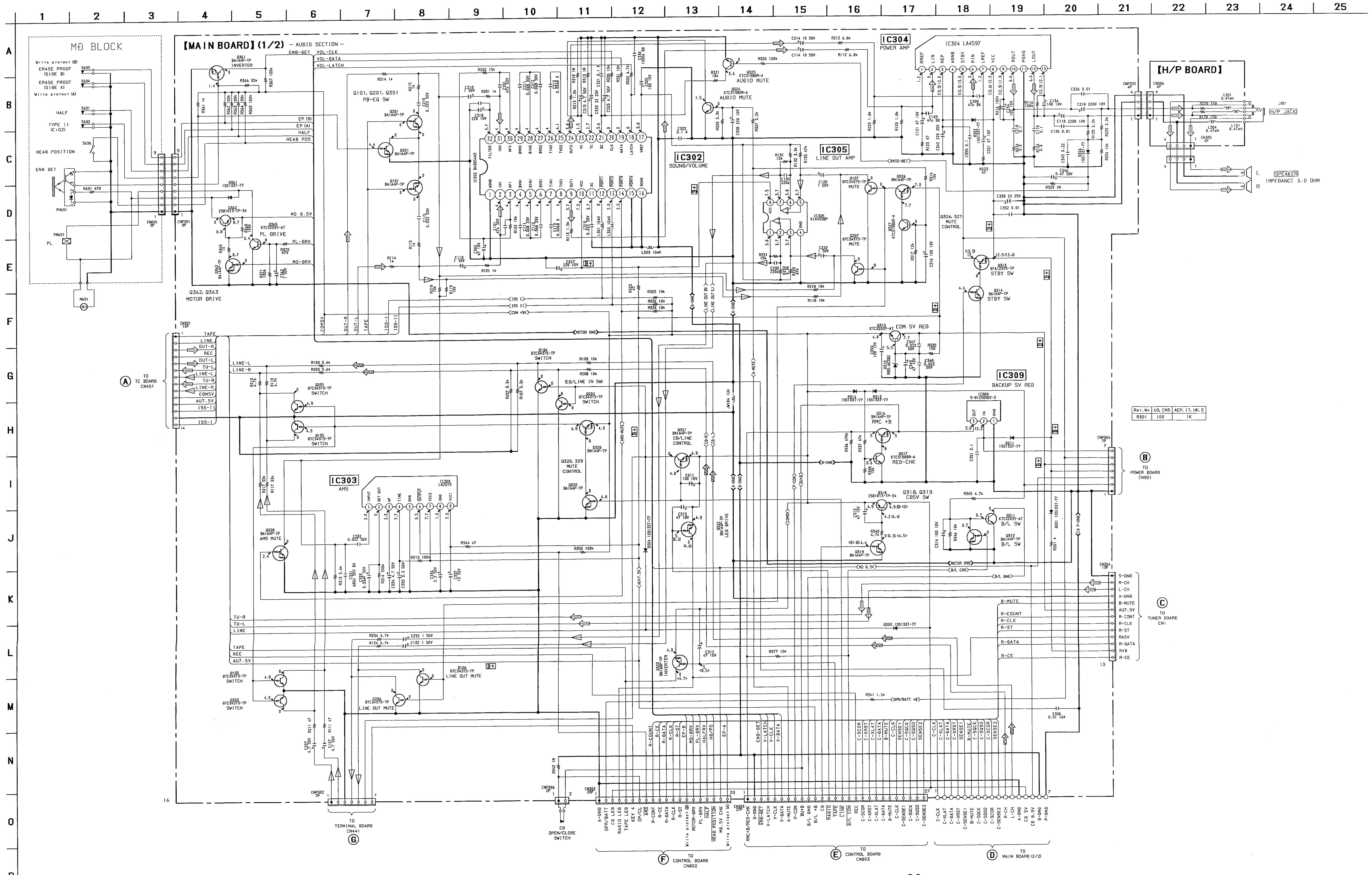
• **Semiconductor Location**

Ref. No.	Location
D301	A-7
D302	D-9
D303	D-2
D304	D-2
D306	B-8
D310	B-6
D311	B-5
D313	B-5
D314	B-5
D361	B-3
D441	G-12
D702	F-3
IC302	D-7
IC303	G-8
IC304	D-9
IC305	G-7
IC309	B-4
IC441	D-12
IC701	E-5
IC702	D-4
IC703	F-6
Q101	C-7
Q103	B-5
Q104	D-3
Q105	D-2
Q106	C-7
Q107	F-7
Q201	C-7
Q203	B-4
Q204	D-3
Q205	C-2
Q206	C-7
Q207	F-7
Q301	C-7
Q311	B-4
Q312	A-3
Q313	B-5
Q314	B-5
Q315	B-6
Q316	B-4
Q317	B-5
Q318	C-3
Q319	C-2
Q320	B-4
Q321	D-2
Q322	D-2
Q323	D-2
Q324	E-8
Q325	C-7
Q326	F-7
Q327	F-7
Q328	F-8
Q329	B-4
Q361	B-2
Q362	A-3
Q363	B-2
Q365	A-3
Q701	F-4



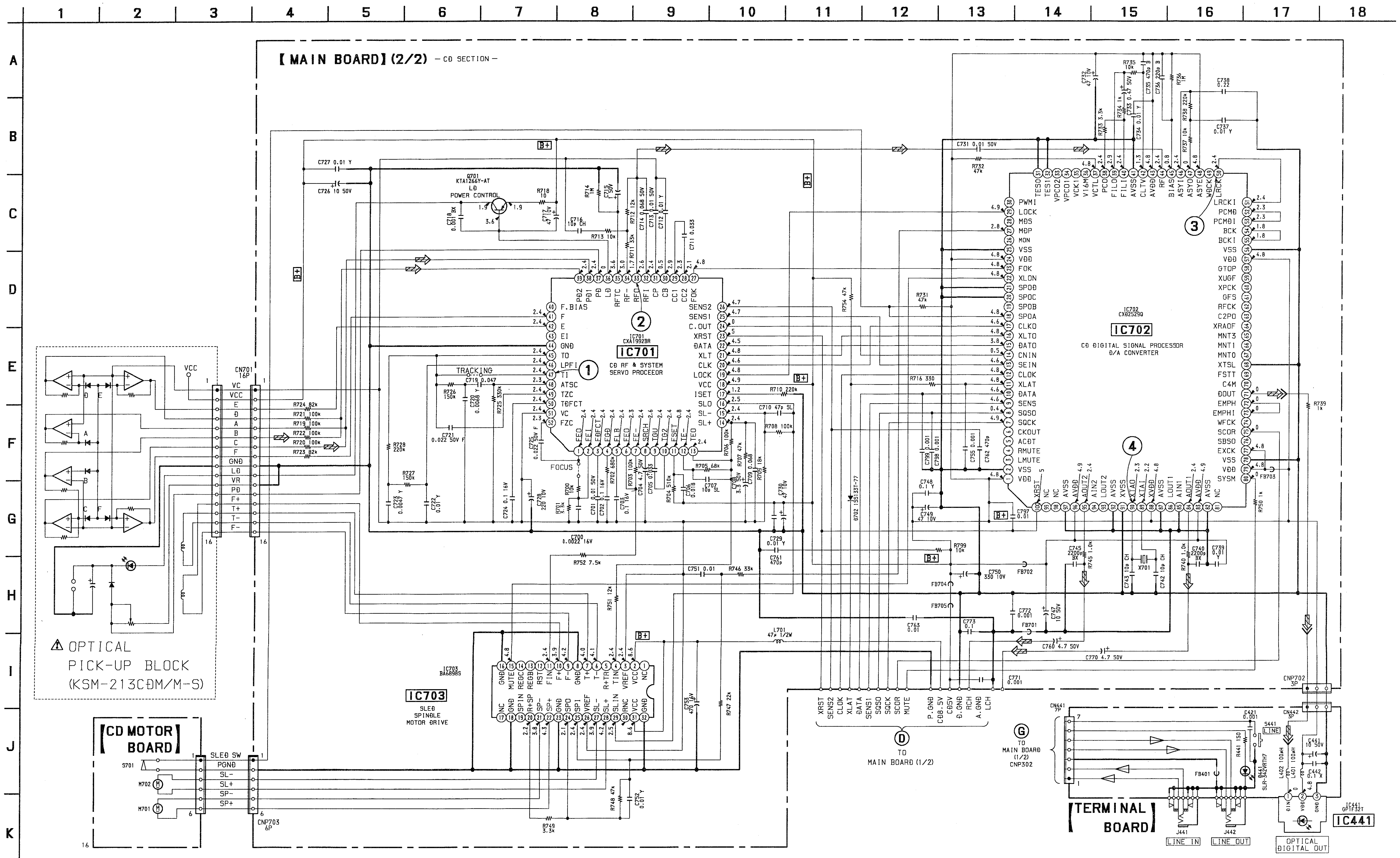
Note:
• ○——— : parts extracted from the component side.
• ░░░░ : Pattern from the side which enables seeing.
(The other layers' patterns are not indicated.)
• Abbreviation
CND : Canadian
IT : Italian

7-5. SCHEMATIC DIAGRAM — MAIN SECTION (1/2) —

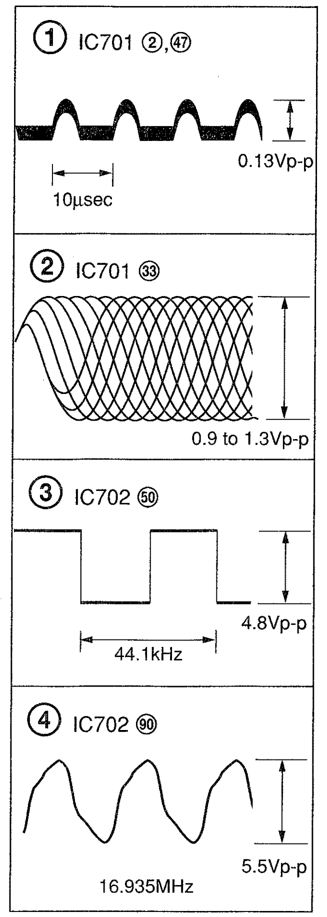


Note:
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- [B+] : B+ Line.
- Power voltage is dc 12V and fed with regulated dc power supply from battery terminal..
- Voltages are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM/CD/TAPE
  ( ) : FM
  < > : PB (TAPE)
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ⇨ : CD
  ▷ : LINE
- Abbreviation
  CND : Canadian
  IT : Italian

7-6. SCHEMATIC DIAGRAM — MAIN SECTION (2/2) —



• Waveform

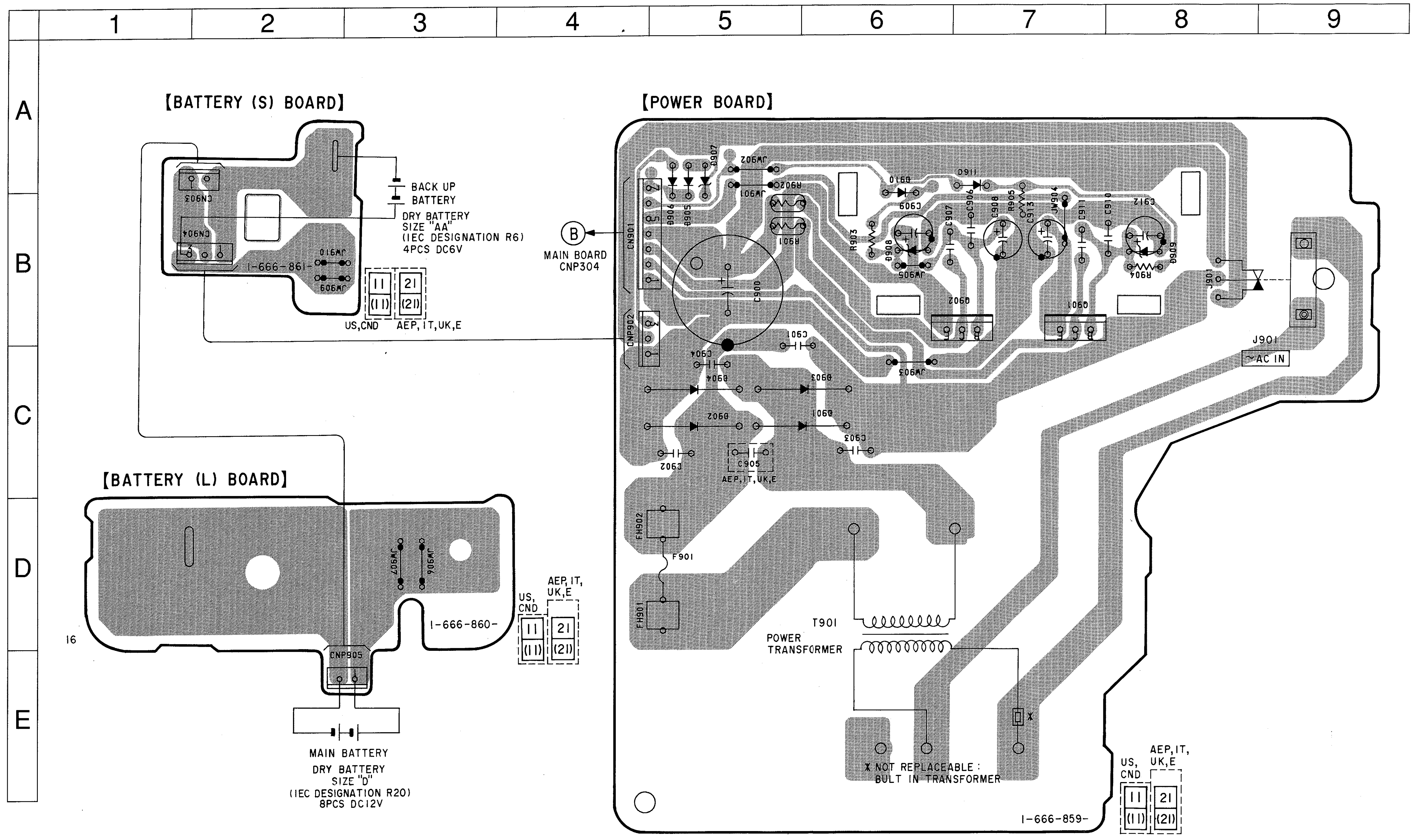


Note:
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

- [B+] : B+ Line.
- Power voltage is dc 12V and fed with regulated dc power supply from battery terminal.
- Voltages and waveforms are dc with respect to ground in playback mode.
  no mark : CD PLAY
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD
  ⇨ : digital out
  ▷ : LINE

7-7. PRINTED WIRING BOARD — POWER SECTION —



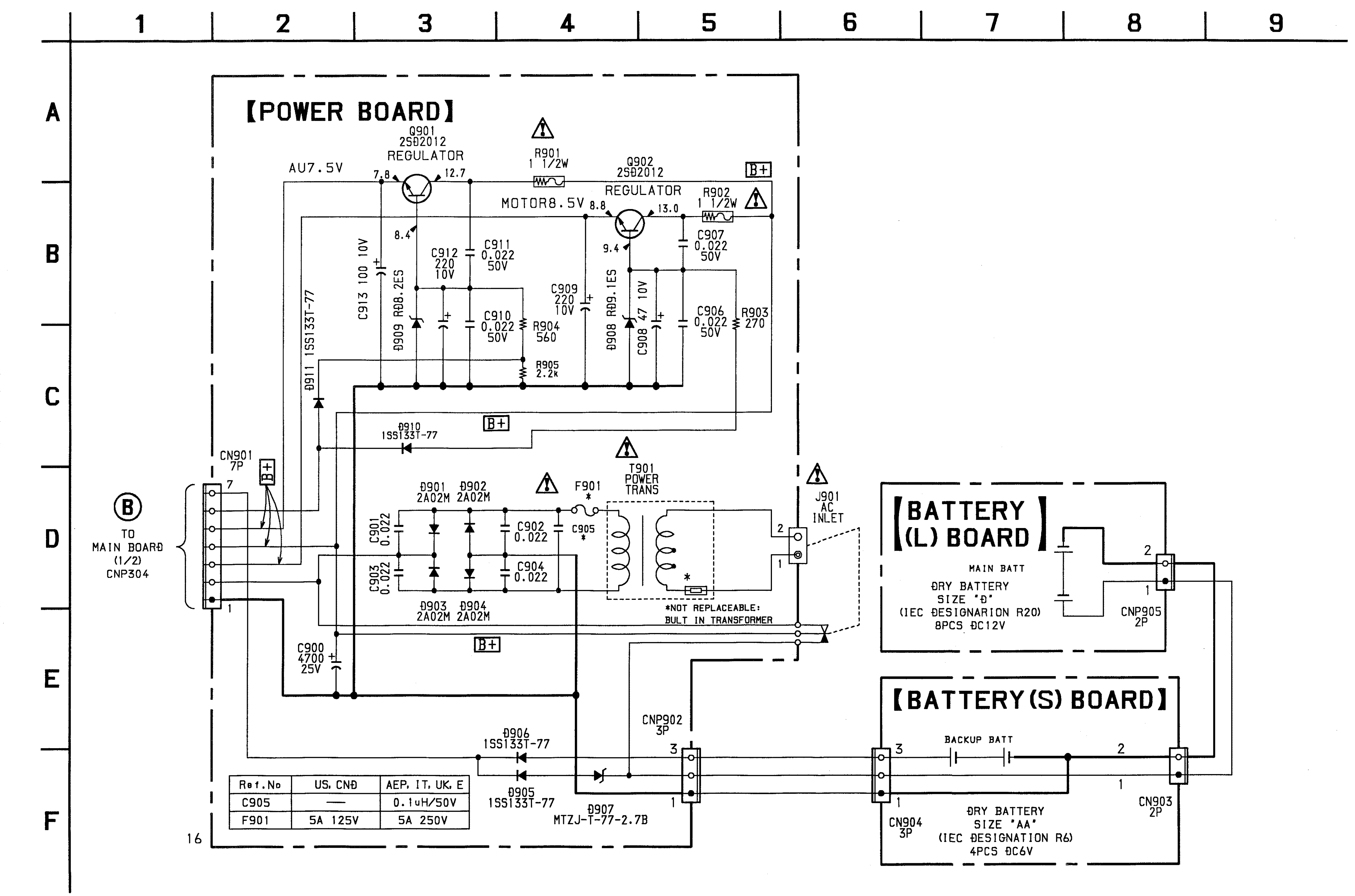
Note:
- o—— : parts extracted from the component side.
- ░░░ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)
- Abbreviation
  CND : Canadian
  IT : Italian

• **Semiconductor Location**

Ref. No.	Location
D901	C-6
D902	C-5
D903	C-6
D904	C-5
D905	B-5
D906	B-5
D907	B-5
D908	B-6
D909	B-8
D910	B-6
D911	A-7
Q901	B-7
Q902	B-7

7-8. SCHEMATIC DIAGRAM — POWER SECTION —



Note:
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- -ww- : fusible resistor.

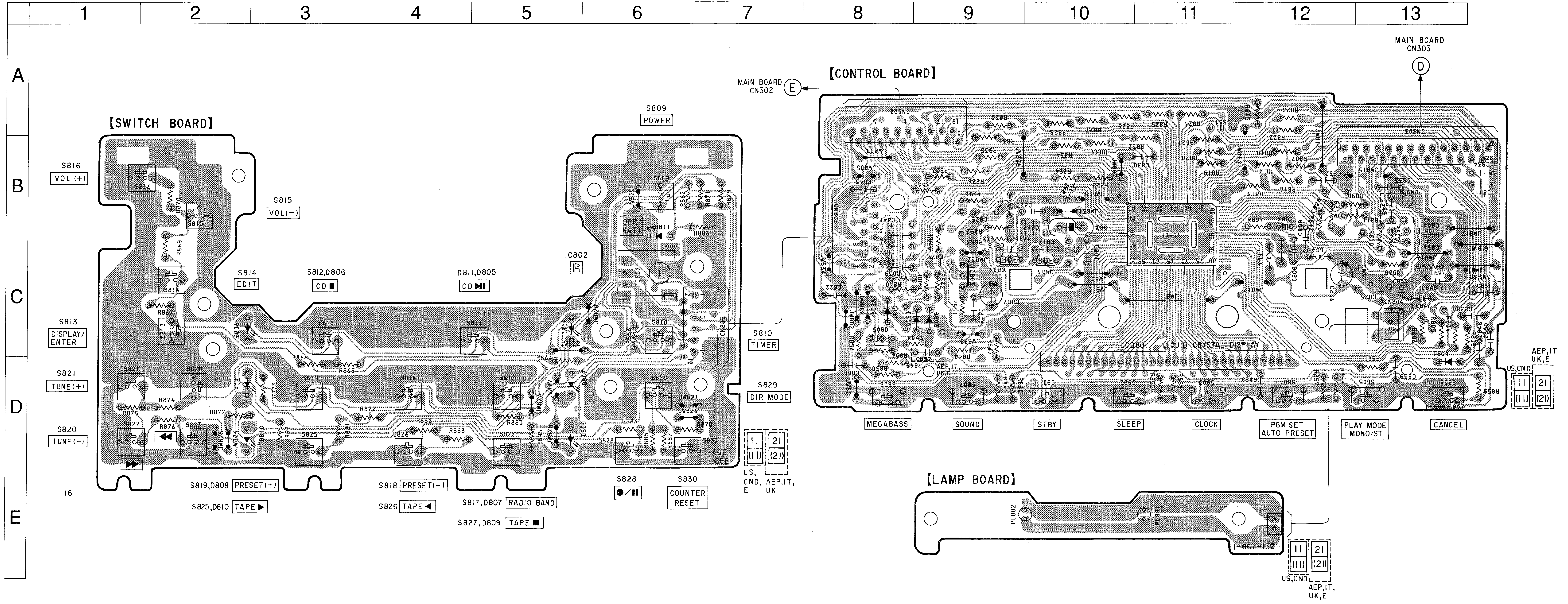
Note:	Note:
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

- [B+] : B+ Line.
- Power voltage is dc 12V and fed with regulated dc power supply from battery terminal.
- Voltages are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
- Abbreviation
  CND : Canadian
  IT : Italian

7-9. PRINTED WIRING BOARD — CONTROL/SWITCH SECTION —

• **Semiconductor Location**

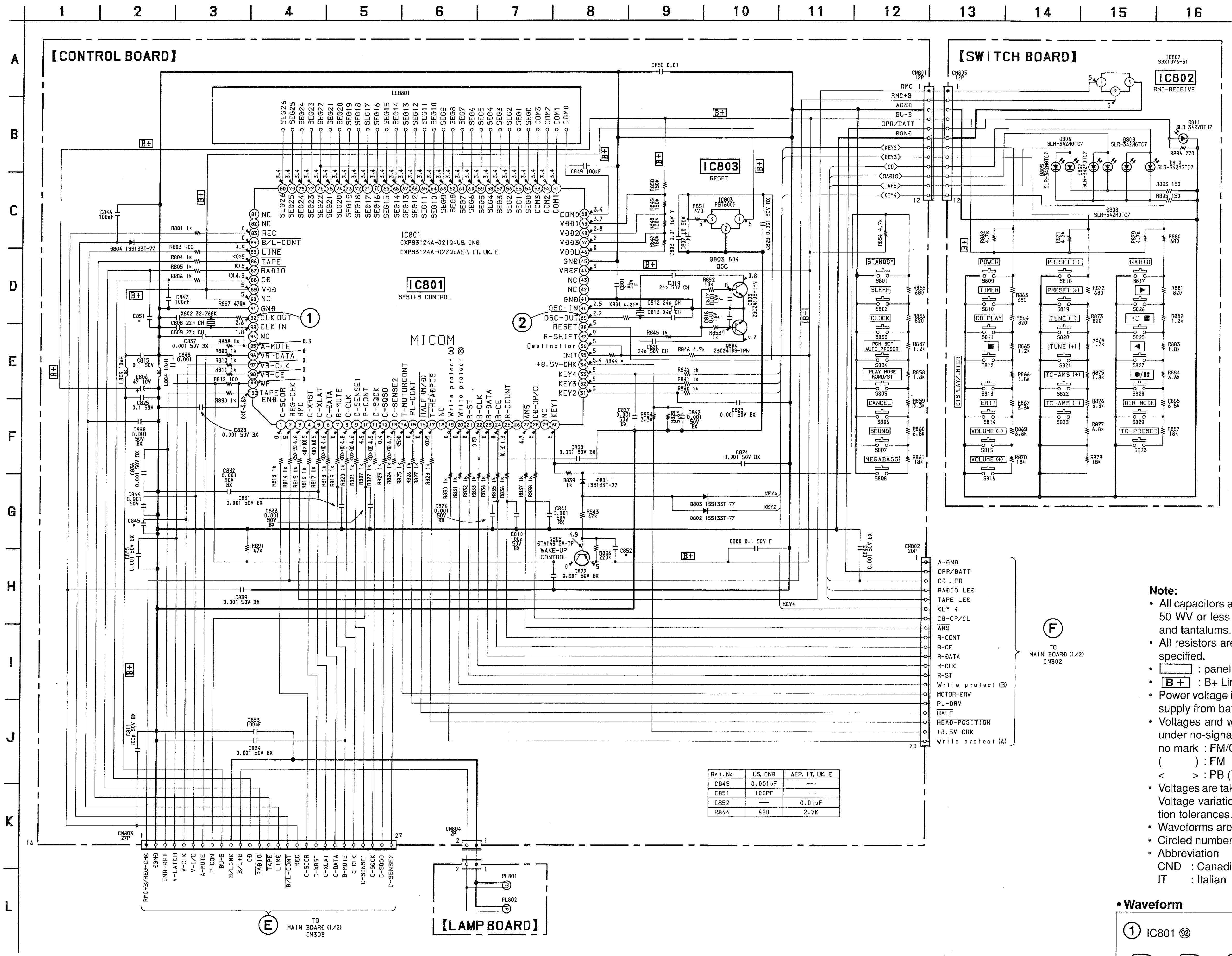
Ref. No.	Location
D801	C-8
D802	C-9
D803	C-9
D804	D-13
D805	C-5
D806	C-2
D807	D-5
D808	D-2
D809	D-5
D810	D-2
D811	B-6
IC801	B-11
IC802	C-6
IC803	C-9
Q803	C-10
Q804	C-9
Q805	C-8



Note:
- o——— : parts extracted from the component side.
- ░░░ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)
- Abbreviation
  - CND : Canadian
  - IT : Italian

7-10. SCHEMATIC DIAGRAM — CONTROL/SWITCH SECTION —

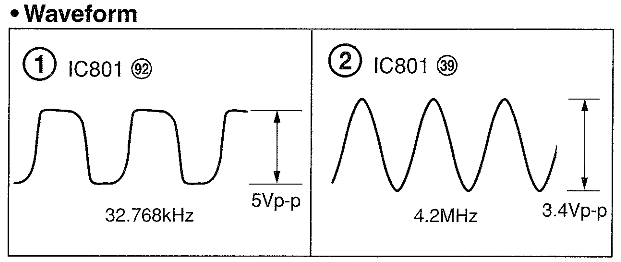


Ref.No	US, CND	AEP, IT, UK, E
C845	0.001uF	—
C851	100PF	—
C852	—	0.01uF
R844	680	2.7K

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ▭ : panel designation.
- B+ : B+ Line.
- Power voltage is dc 12V and fed with regulated dc power supply from battery terminal.
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM/CD/TAPE
  ( ) : FM
  < > : PB (TAPE)
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
- Circled numbers refer to waveforms.
- Abbreviation
  CND : Canadian
  IT : Italian

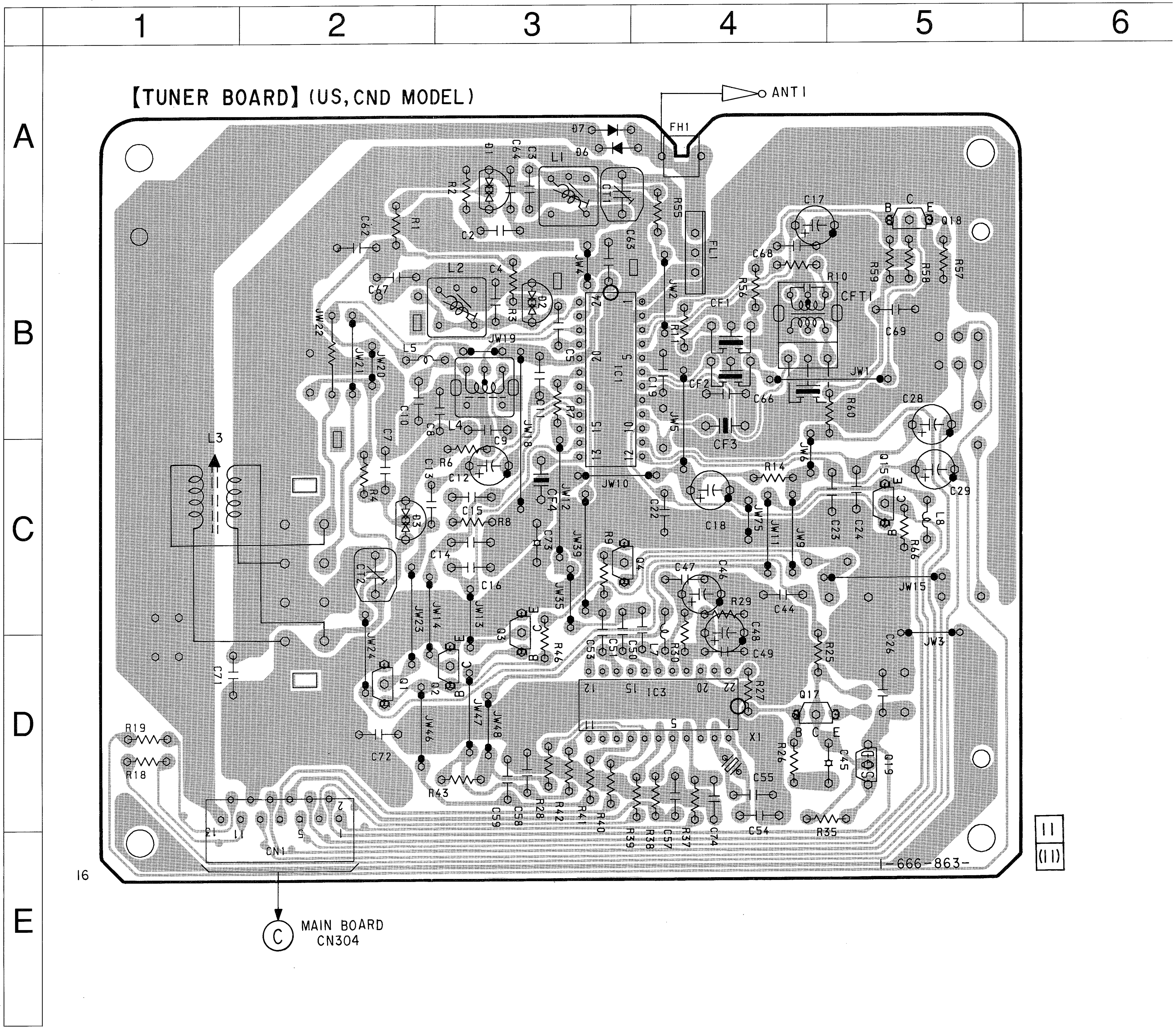
• Waveform



7-11. PRINTED WIRING BOARD — TUNER SECTION (US, CND MODEL) —

• **Semiconductor Location**

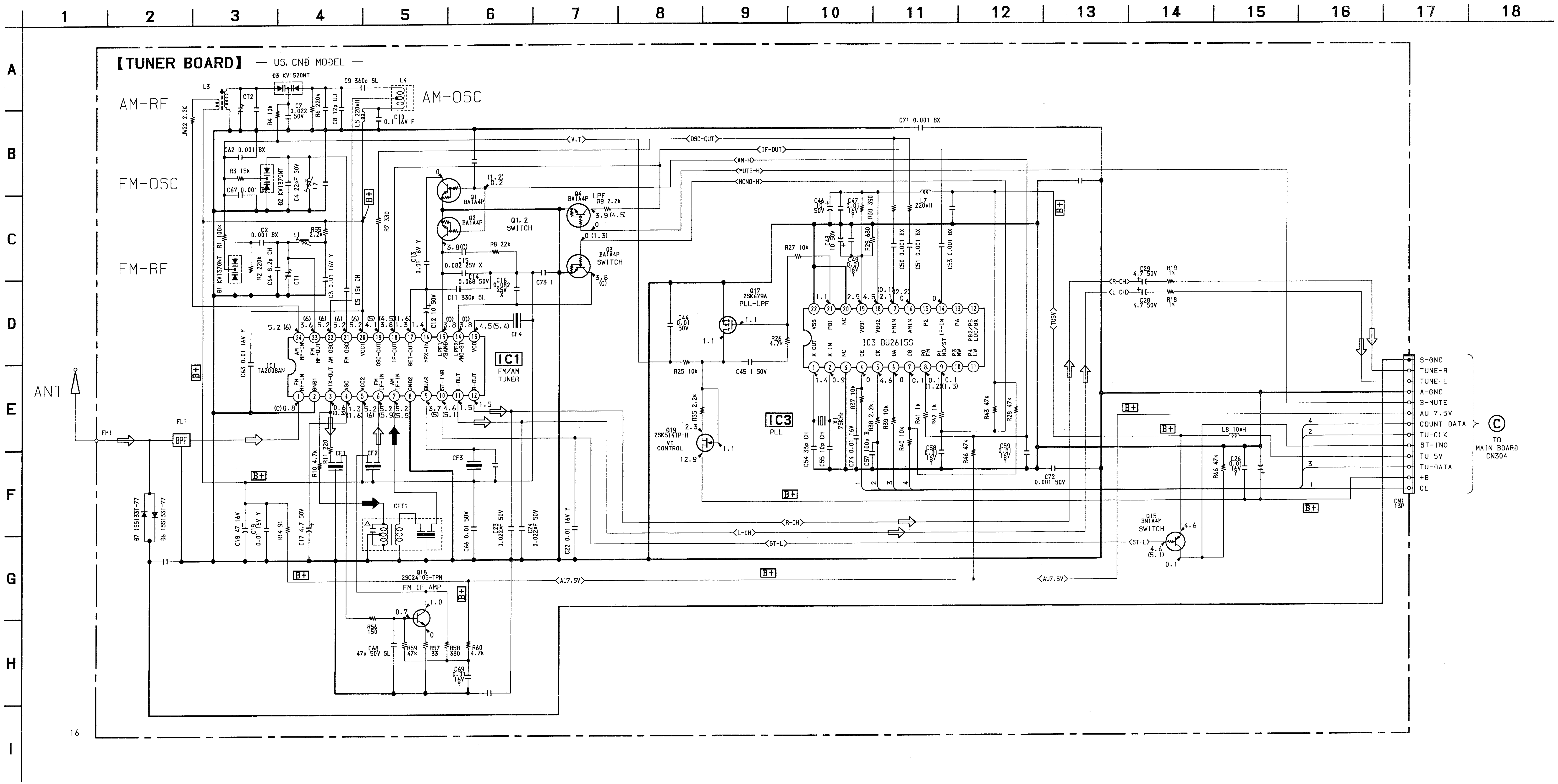
Ref. No.	Location
D1	A-3
D2	B-3
D3	C-2
D6	A-3
D7	A-3
IC1	B-3
IC3	D-4
Q1	D-2
Q2	D-3
Q3	C-3
Q4	C-3
Q15	C-5
Q17	D-4
Q18	A-5
Q19	D-5



Note:
- ○—— : parts extracted from the component side.
- △ : internal component.
- ░░ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)
- Abbreviation
  CND : Canadian

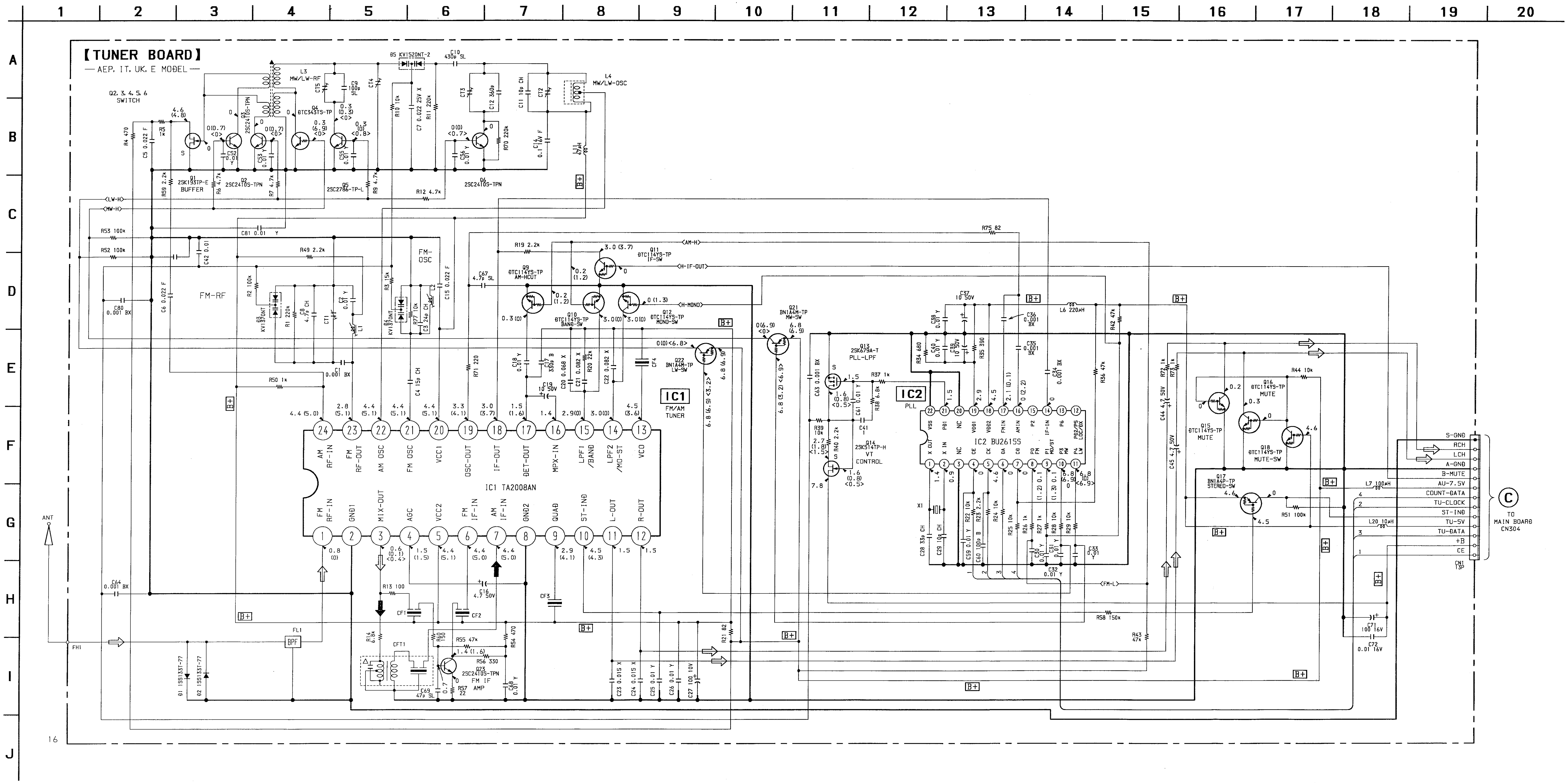
7-12. SCHEMATIC DIAGRAM —TUNER SECTION (US, CND MODEL) —



Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- B+ : B+ Line.
- Power voltage is dc 12V and fed with regulated dc power supply from battery terminal.
- Voltages are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : AM
- Voltages are taken with a VOM (Input impedance 10 MΩ).
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ➡ : AM
- Abbreviation
  CND : Canadian

7-13. SCHEMATIC DIAGRAM —TUNER SECTION (AEP, IT, UK, E MODEL) —



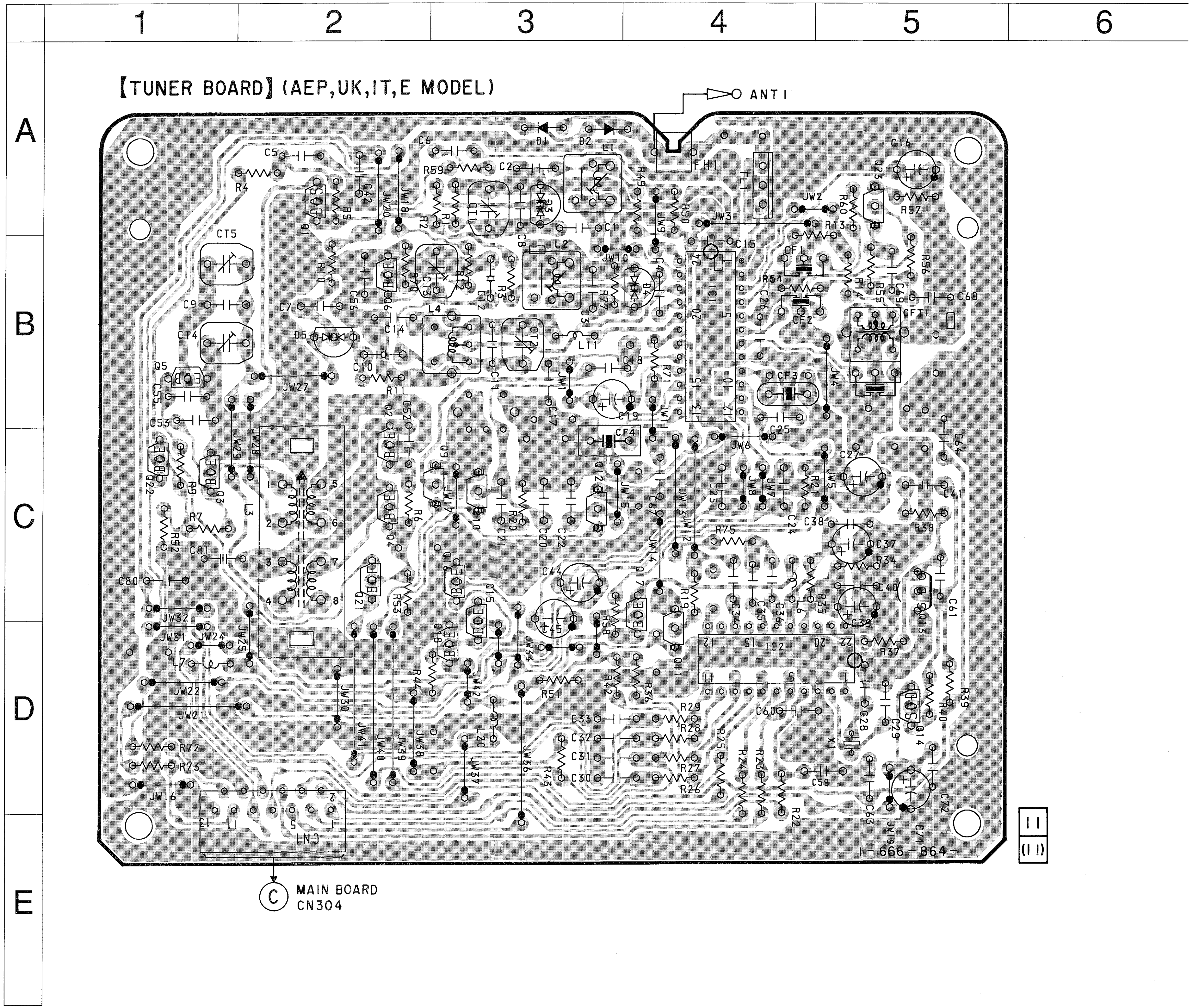
Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- B+ : B+ Line.
- Power voltage is dc 12V and fed with regulated dc power supply from battery terminal.
- Voltages are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM
  ( ) : MW or MW/LW
  < > : LW
- Voltages are taken with a VOM (Input impedance 10 MΩ).
  Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ➡ : AM
- Abbreviation
  CND : Italian

7-14. PRINTED WIRING BOARD — TUNER SECTION (AEP, IT, UK, E MODEL) —

• **Semiconductor Location**

Ref. No.	Location
D1	A-3
D2	A-3
D3	A-3
D4	B-4
D5	B-2
IC1	B-4
IC2	D-4
Q1	A-2
Q2	C-2
Q3	C-1
Q4	C-2
Q5	B-1
Q6	B-2
Q9	C-3
Q10	C-3
Q11	D-4
Q12	C-3
Q13	C-5
Q14	D-5
Q15	D-3
Q16	C-3
Q17	C-4
Q18	D-3
Q21	C-2
Q22	C-1
Q23	A-5



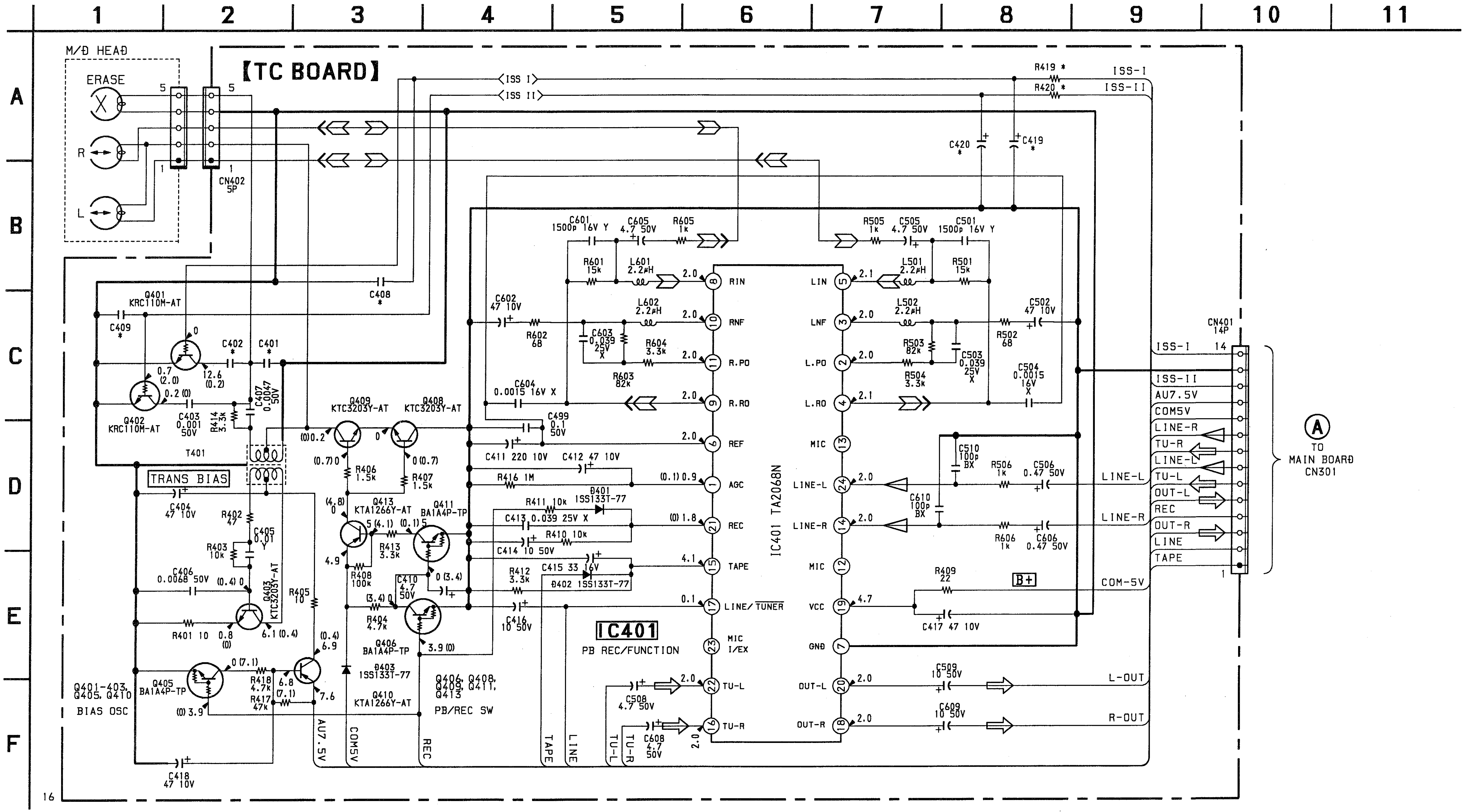
Note:
- o—— : parts extracted from the component side.
- △ : internal component.
- ░░ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

- Abbreviation

IT : Italian

7-15. SCHEMATIC DIAGRAM —TC SECTION—

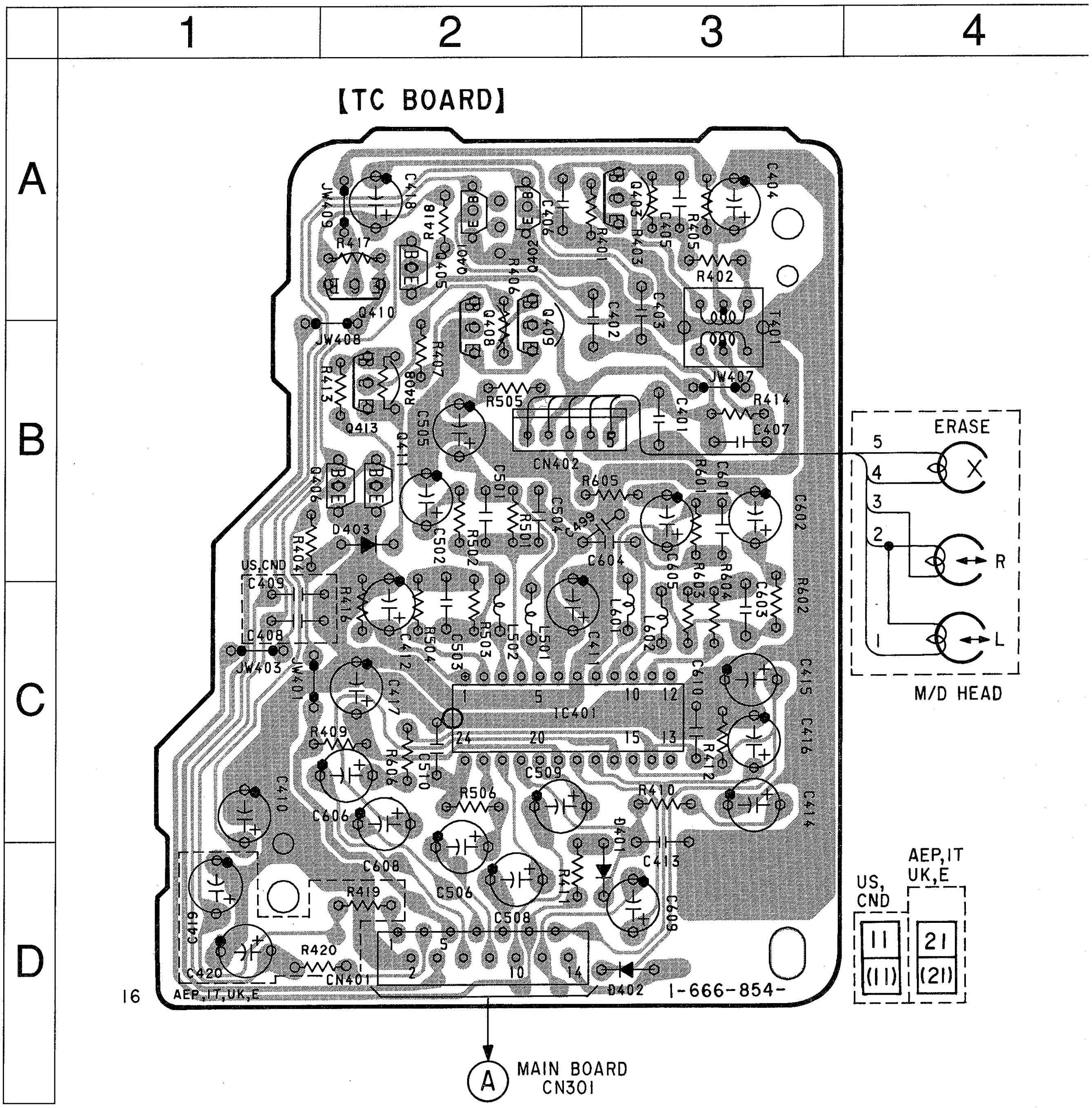


Ref.No	US, CND	AEP, UK, IT, E
C401	0.0082uF	0.0068uF
C402	680PF	0.001uF
C408, 409	0.01uF/16V	—
C419, 420	—	47uF/10V
R419, 420	JW	1K

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- B+ : B+ Line.
- ▭ : adjustment for repair.
- Power voltage is dc 12V and fed with regulated dc power supply from battery terminal.
- Voltages are dc with respect to ground under no-signal (detuned) conditions.
  no mark : PB (TAPE)
- Voltages are taken with a VOM (Input impedance 10 MΩ).
  Voltage variations may be noted due to production tolerances.
- Signal path
  - : FM
  - : PB (TAPE)
  - : REC (TAPE)
  - : LINE
- Abbreviation
  - CND : Canadian
  - IT : Italian

7-16. PRINTED WIRING BOARD —TC SECTION—



• **Semiconductor Location**

Ref. No.	Location
D401	D-3
D402	D-3
D403	B-2
IC401	C-2
Q401	A-2
Q402	A-2
Q403	A-3
Q405	A-2
Q406	B-2
Q408	B-2
Q409	B-2
Q410	A-2
Q411	B-2
Q413	B-2

Note on Printed Wiring Board:

- o—— : parts extracted from the component side.
- ░░░ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

- Abbreviation
  CND : Canadian
  IT : Italian

7-17. IC PIN FUNCTION DESCRIPTION

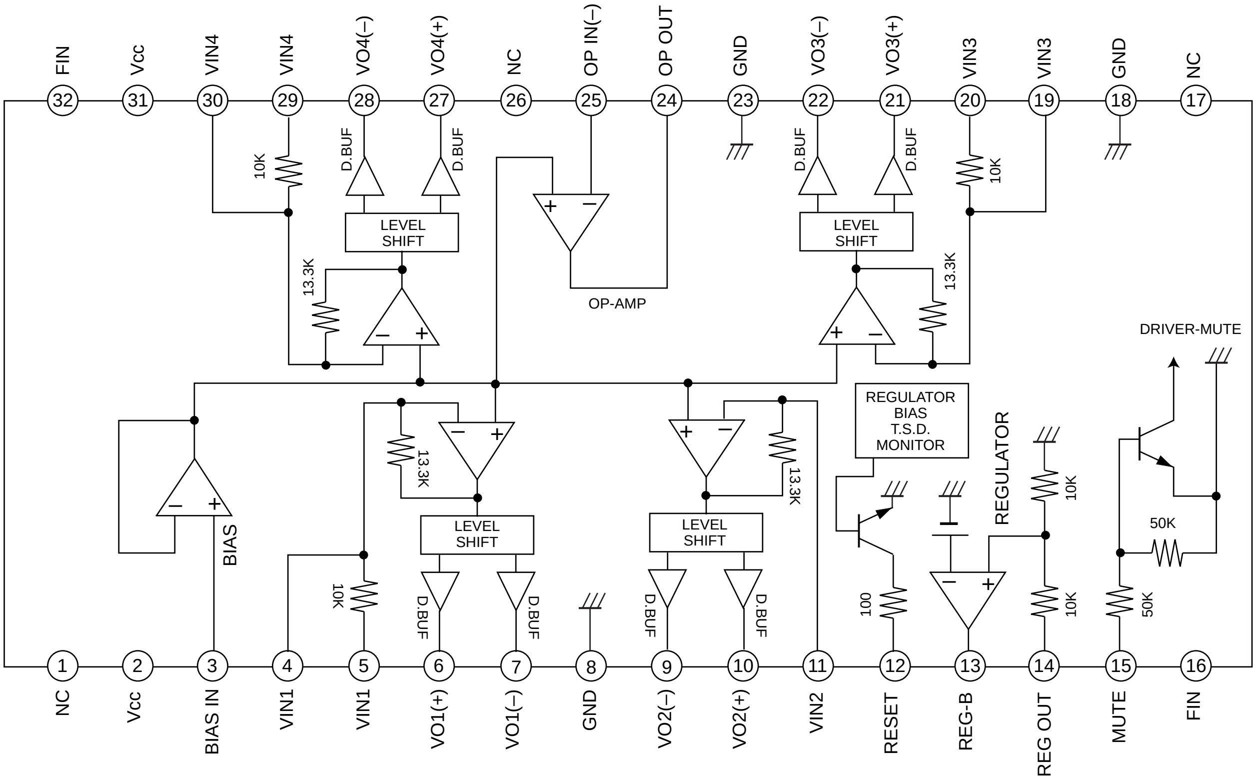
- **IC801 CXP83124A-021Q**

Pin No.	Pin Name	I/O	Description
1	C-SCOR	I	CD DSP command date output
2	REG-CHK	I	
3	RMC	I	Remote control input signal
4	C-XRST	O	CD-system reset
5	C-XLAT	O	CD DSP for command latch
6	C-DATA	O	CD DSP command date output
7	B-MUTE	O	CD and TUNER mute output
8	C-CLK	O	CD DSP for command CLK output
9	C-SENSE 1	I	CD SENSE input
10	P-CONT	O	Regulator control
11	C-SQCK	O	CD SUB-Q read-out clock
12	C-SQSO	O	CD-SQSO data input
13	C-SENSE 2	I	CD SENSE input
14	T-MOTOR CONT	O	
15	PL-CONT	O	
16	$\overline{\text{HALF (M/D)}}$	I	Tape exist/not exist check
17	$\overline{\text{T-HEAD POS}}$	I	
18	NC	–	Not used (open)
19	Write protect (A)	I	Write protect (A)
20	Write protect (B)	I	Write protect (B)
21	R-ST	I	Tuner stereo receive signal
22	R-CLK	O	PLL IC clock output
23	R-DATA	O	PLL IC data output
24	R-CE	O	PLL IC chip enable output
25	R-CONT	I	PLL IC data input
26	–	–	Not used (open)
27	$\overline{\text{AMS}}$	I	
28	CD-OP/CL	O	
29	NC	–	Not used (open)
30	KEY 1	I	Key input
31	KEY 2	I	Key input
32	KEY 3	I	Key input
33	KEY 4	I	Key input
34	+8.5V-CHK	I	DC voltage check
35	INIT	I	INITIAL
36	Destination	I	Destination Radio destination read-in input
37	R-SHIFT	O	
38	$\overline{\text{RESET}}$	I	Reset
39	OSC-OUT	I	4.19 MHz input
40	OSC-IN	O	4.19 MHz input
41	GND	–	Ground
42	NC	–	Not used (open)
43	NC	–	Not used (open)
44	V REF	I	
45	GND	–	Ground
46	VDDL	I	LCD drive bias control terminal
47	VDD3	I	Bias power source supply terminal for LCD drive
48	VDD2	I	Bias power source supply terminal for LCD drive
49	VDD1	I	Bias power source supply terminal for LCD drive
50	COM0	O	LCD common output

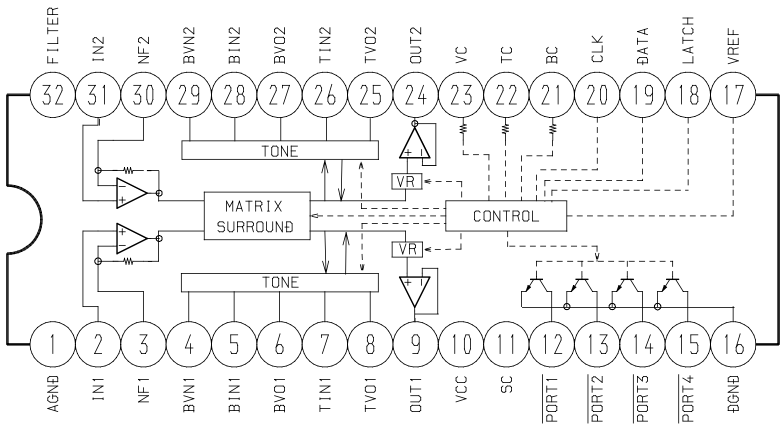
Pin No.	Pin Name	I/O	Description
51	COM1	O	LCD common output
52	COM2	O	LCD common output
53	COM3	O	LCD common output
54 to 80	SEG0 to SEG26	O	LCD common output
81	NC	–	Not used (open)
82	NC	–	Not used (open)
83	REC	O	Record bias power source supply
84	$\overline{\text{B/L-CONT}}$	O	B/L-CONTROL
85	$\overline{\text{LINE}}$	O	LIFE FUNCTION output
86	$\overline{\text{TAPE}}$	O	TAPE FUNCTION output
87	$\overline{\text{RADIO}}$	O	RADIO FUNCTION output
88	CD	O	CD FUNCTION output
89	VDD	I	Power supply
90	NC	I	Not used (connected to VDD)
91	GND	–	Ground
92	CLK OUT	–	32 kHz output
93	CLK IN	–	32 kHz output
94	NC	–	Not used (open)
95	A-MUTE	O	AUDIO MUTE terminal
96	VR-DATA	O	VOLUME DATA output
97	VR-CLK	O	VOLUME CKL output terminal
98	VR-CE	O	VOLUME ENABLE output terminal
99	WP	I	µ-COM WAKE UP terminal
100	TAPE END	I	Tape end check

7-18. BLOCK DIAGRAMS

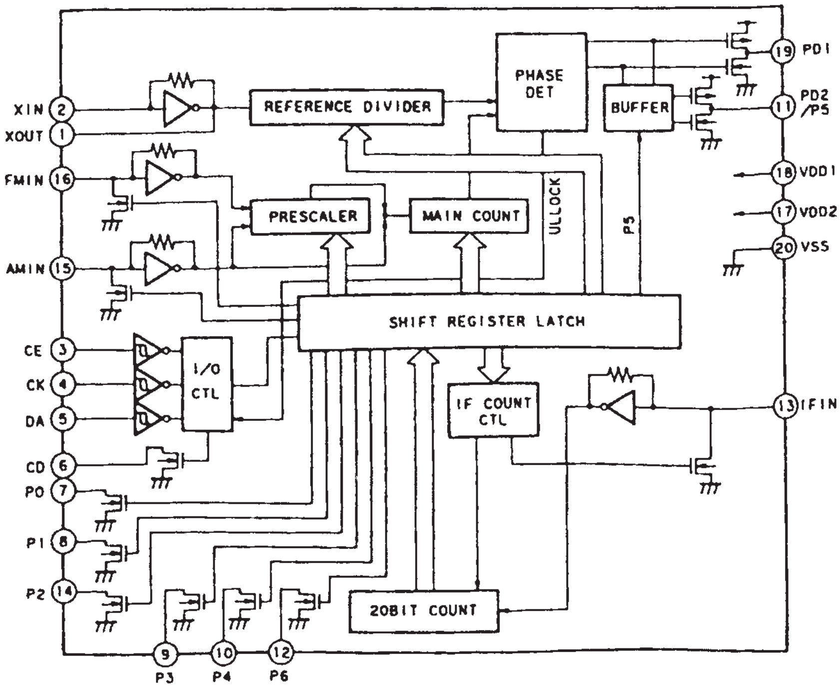
IC703 BA6898S



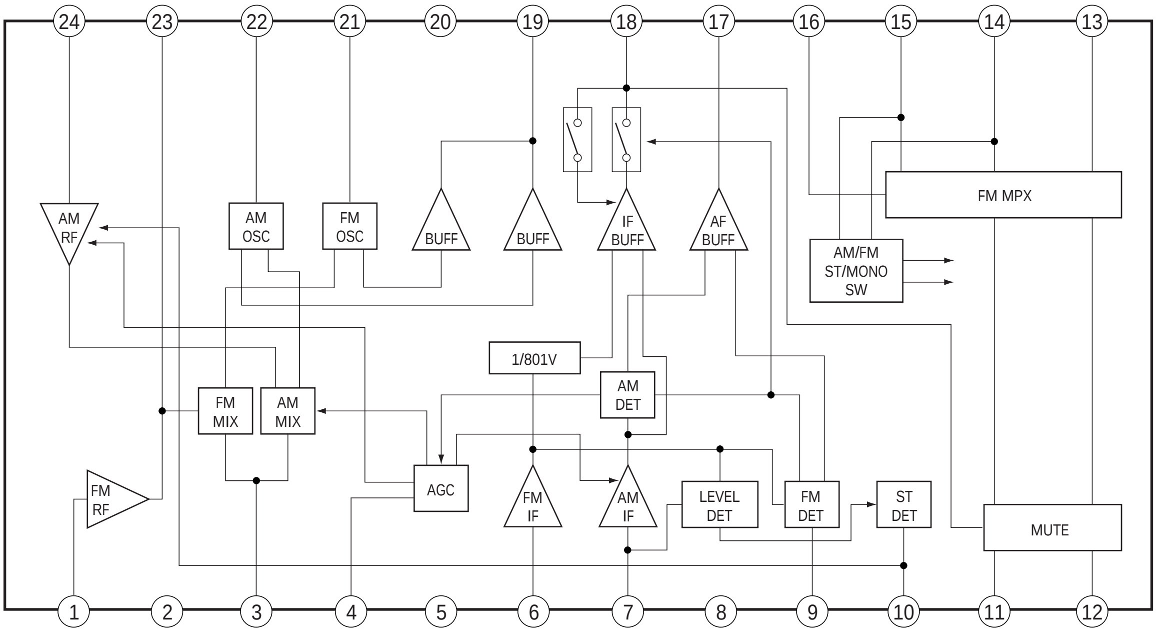
IC302 BH3854AS



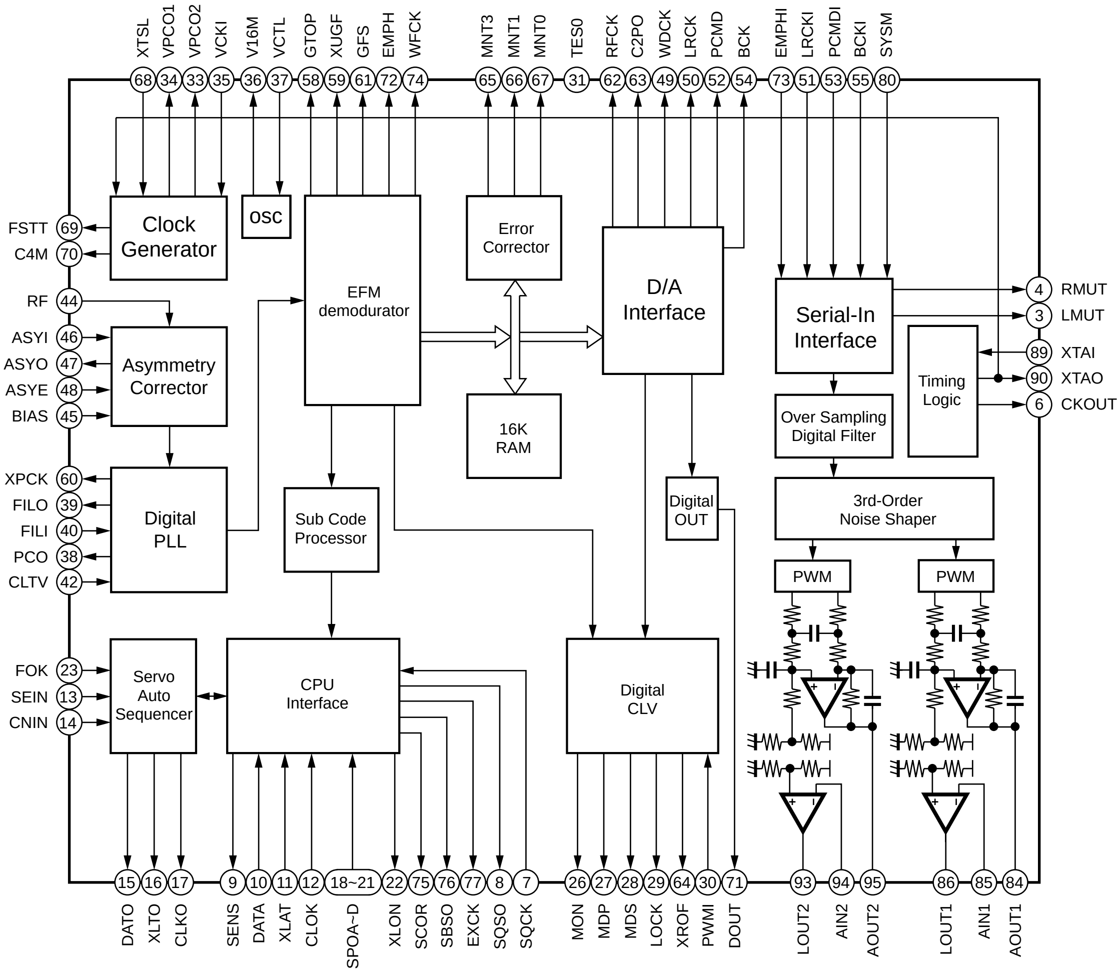
IC3 BU2615S



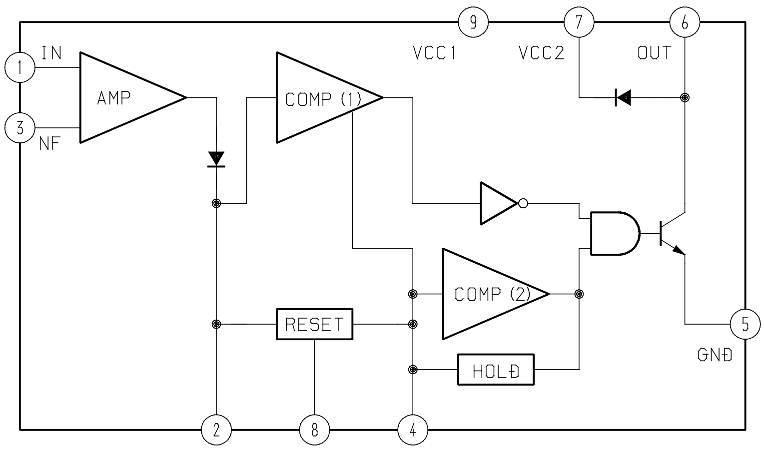
IC1 TA2008AN



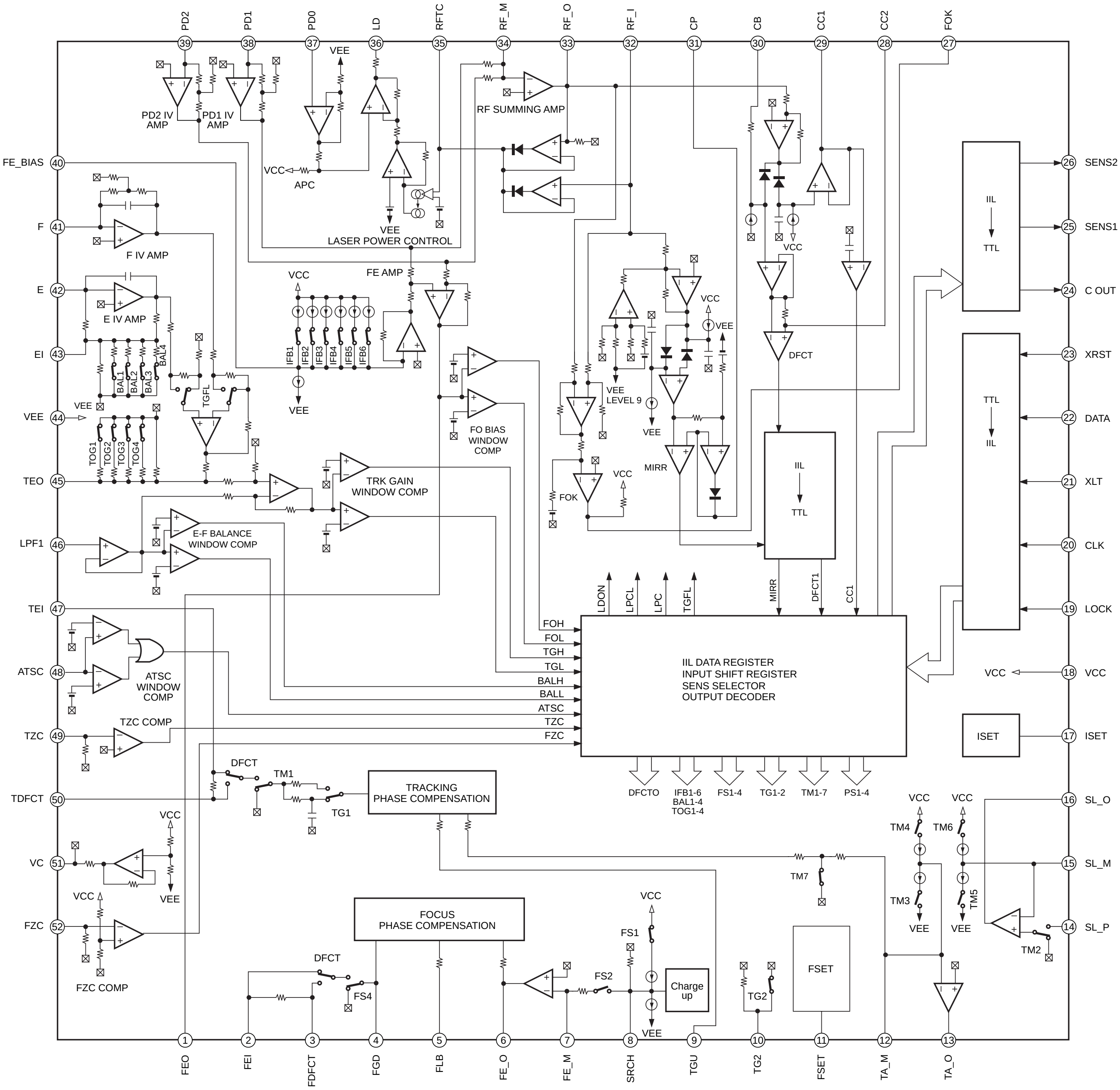
IC702 CDX2529Q



IC303 LA2010



IC701 CXA1992BR



SECTION 8
EXPLODED VIEWS

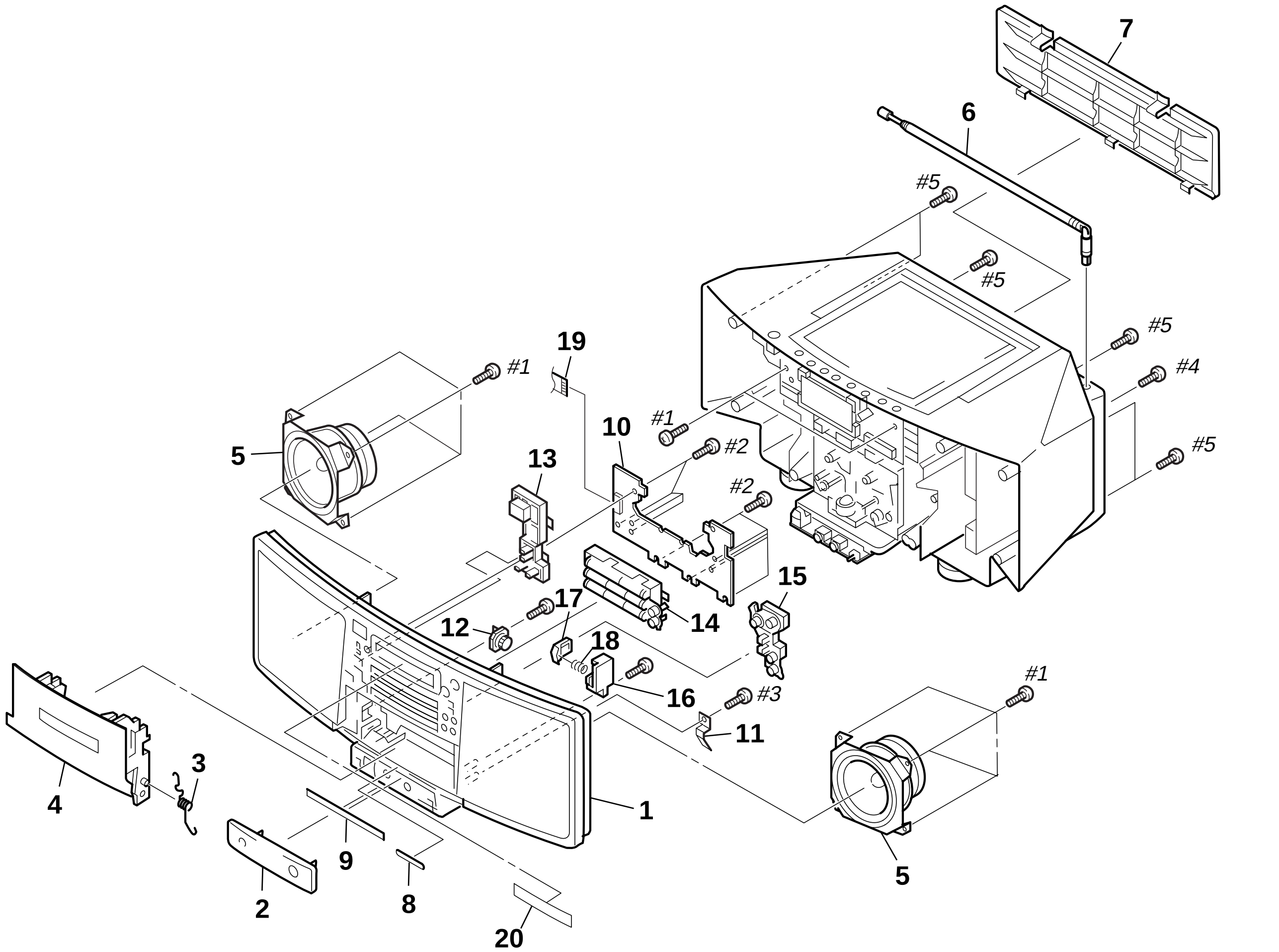
NOTE:
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Abbreviation
  CND : Canadian
  IT : Italian
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

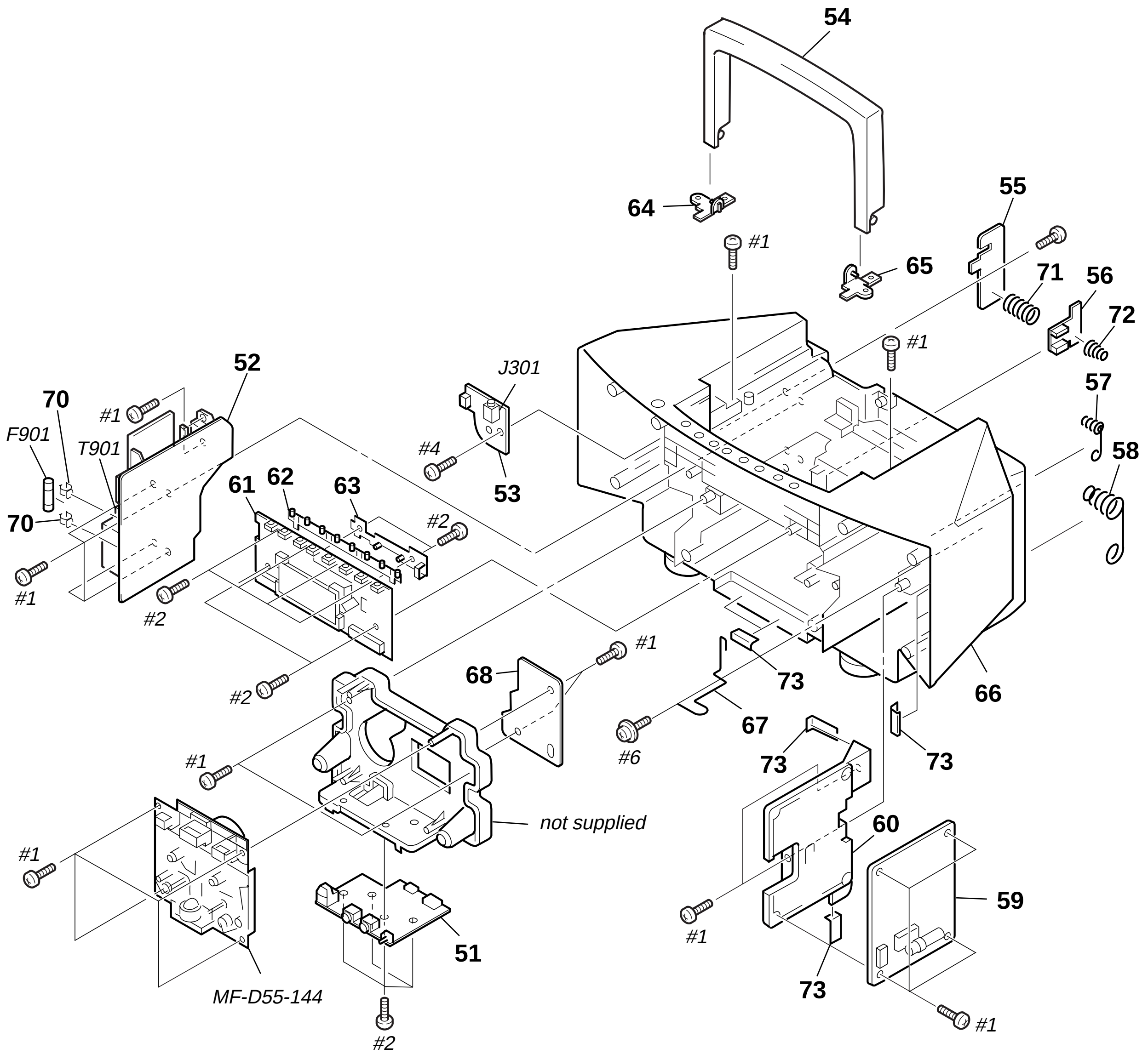
Les composants identifiés par une marque ! sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

8-1. FRONT CABINET SECTION



Ref. No.	Part No.	Description	Remarks
1	X-3376-357-1	CABINET SUB ASSY, FRONT	
2	X-3376-361-1	HOLDER SUB ASSY, JACK	
3	3-017-465-01	SPRING, CASSETTE OPEN	
4	X-3375-359-1	HOLDER SUB ASSY, CASSETTE	
5	1-505-742-11	SPEAKER (8CM)	
6	1-501-480-11	ANTENNA, TELESCOPIC	
7	3-017-470-01	LID, BATTERY CASE	
8	3-017-473-01	WINDOW, AZIMUTH	
9	3-017-877-11	PLATE (P), JACK	
* 10	A-3321-154-A	SWITCH BOARD, COMPLETE (US,CND,E)	
* 10	A-3321-191-A	SWITCH BOARD, COMPLETE (AEP,IT,UK)	
* 11	3-017-462-01	BRACKET, JACK	
12	3-351-377-11	GEAR, DAMPER	
13	3-017-456-41	BUTTON, POWER (US,E)	
13	3-017-456-51	BUTTON, POWER (AEP,UK)	
14	X-3376-363-1	BUTTON SUB ASSY, CONTROL	
15	3-017-457-11	BUTTON, VOLUME	
* 16	3-017-461-01	BRACKET, OP/CLOSE	
17	3-939-030-01	CATCHER, PUSH	
18	3-939-031-01	SPRING, PUSH CATCHER RETURN	
19	1-782-632-11	WIRE, PARALLEL (FFC) (12 CORE)	
20	X-3374-296-1	WINDOW SUB ASSY, LCD	
	3-014-503-01	FOOT	
*	3-703-044-26	LABEL, CAUTION (US,CND)	
	3-839-640-00	CUSHION	

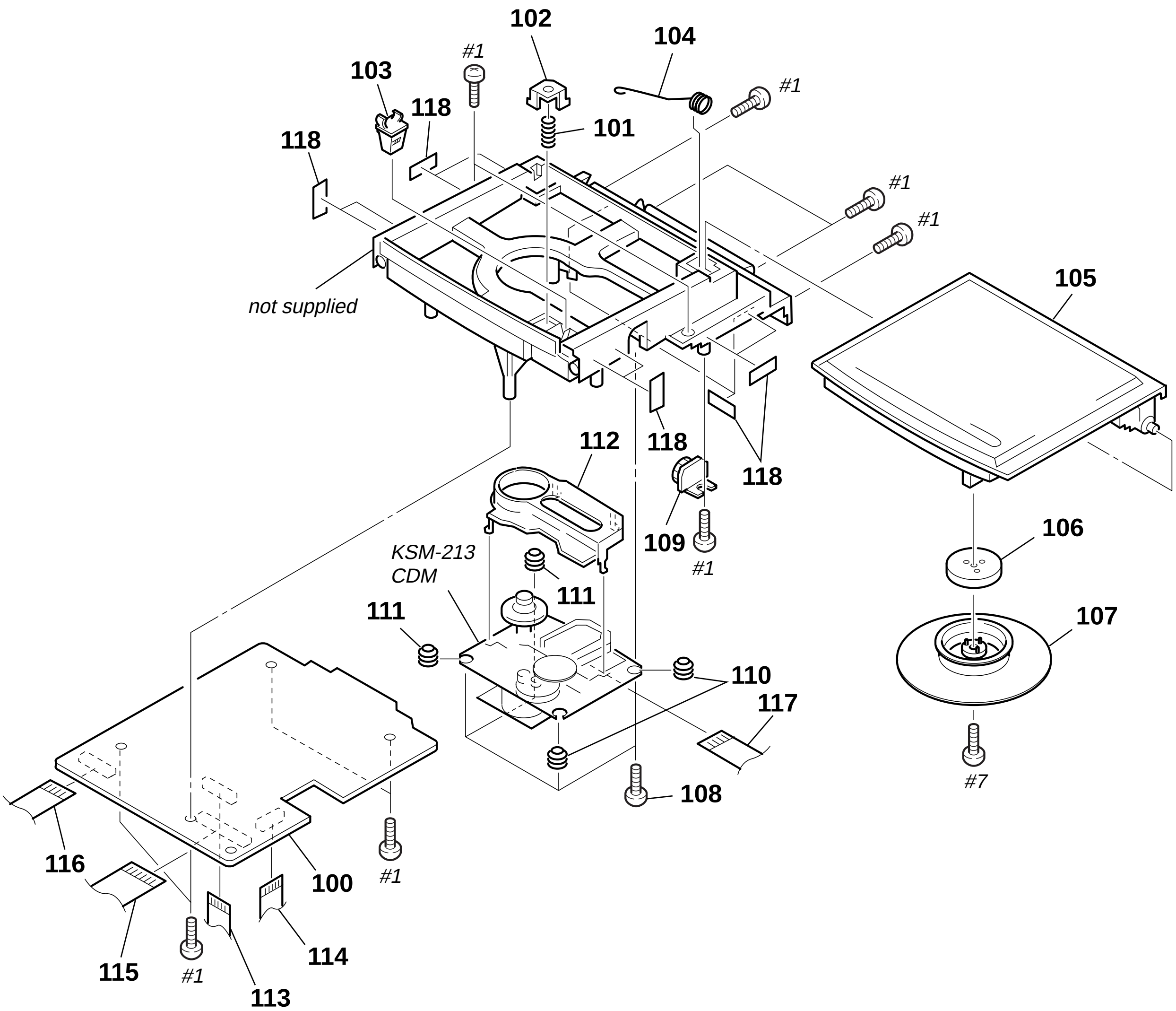
8-2. REAR CABINET SECTION



Ref. No.	Part No.	Description	Remarks
* 51	1-666-855-11	TERMINAL BOARD (US,CND)	
* 51	1-666-855-21	TERMINAL BOARD (AEP,IT,UK,E)	
* 52	A-3321-150-A	POWER BOARD, COMPLETE (US,CND)	
* 52	A-3293-875-A	POWER BOARD, COMPLETE (AEP,IT,UK,E)	
* 53	1-666-856-11	H/P BOARD (US,CND)	
* 53	1-666-856-21	H/P BOARD (AEP,IT,UK,E)	
54	3-017-448-01	HANDLE	
* 55	1-666-860-11	BATTERY (L) BOARD (US,CND)	
* 55	1-666-860-21	BATTERY (L) BOARD (AEP,IT,UK,E)	
* 56	1-666-861-11	BATTERY (S) BOARD (US,CND)	
* 56	1-666-861-21	BATTERY (S) BOARD (AEP,IT,UK,E)	
57	3-017-438-01	SPRING (+.-) (S), BATTERY	
58	3-017-437-01	SPRING (+.-) (L), BATTERY	
* 59	A-3321-151-A	TUNER BOARD, COMPLETE (US,CND)	
* 59	A-3321-189-A	TUNER BOARD, COMPLETE (AEP,IT,UK,E)	
60	3-017-445-01	CHASSIS, TU	
* 61	A-3321-148-A	CONTROL BOARD, COMPLETE(US,CND)	
* 61	A-3321-186-A	CONTROL BOARD, COMPLETE (AEP,IT,UK,E)	
62	3-017-443-01	BUTTON, SOUND	
* 63	1-667-132-11	LAMP BOARD (US,CND)	
* 63	1-667-132-21	LAMP BOARD (AEP,IT,UK,E)	
64	3-017-440-01	BRACKET (L), HANDLE	
65	3-017-449-01	BRACKET (R), HANDLE	
66	3-017-436-01	CABINET, REAR (AEP,IT,UK,E)	
66	3-017-436-11	CABINET, REAR (US,CND)	
67	3-017-441-01	TERMINAL, ANT	
* 68	A-3293-842-A	TC BOARD, COMPLETE (US,CND)	
* 68	A-3293-869-A	TC BOARD, COMPLETE (AEP,IT,UK,E)	
70	1-533-233-21	HOLDER, FUSE	
71	3-017-439-01	SPRING (-) (L), BATTERY	
72	3-939-057-01	SPRING (-), BACK UP	
73	3-831-441-99	CUSHION, SPEAKER	
⚠F901	1-532-505-31	FUSE (5A 250V) (AEP,IT,UK,E)	
⚠F901	1-533-420-11	FUSE, GLASS CYLINDRICAL(DIA.5) (5A 125V) (US,CND)	
⚠T901	1-431-483-11	TRANSFORMER, POWER (US,CND)	
⚠T901	1-431-484-11	TRANSFORMER, POWER (AEP,IT,UK,E)	
J301	1-566-891-11	JACK (H/P JACK)	

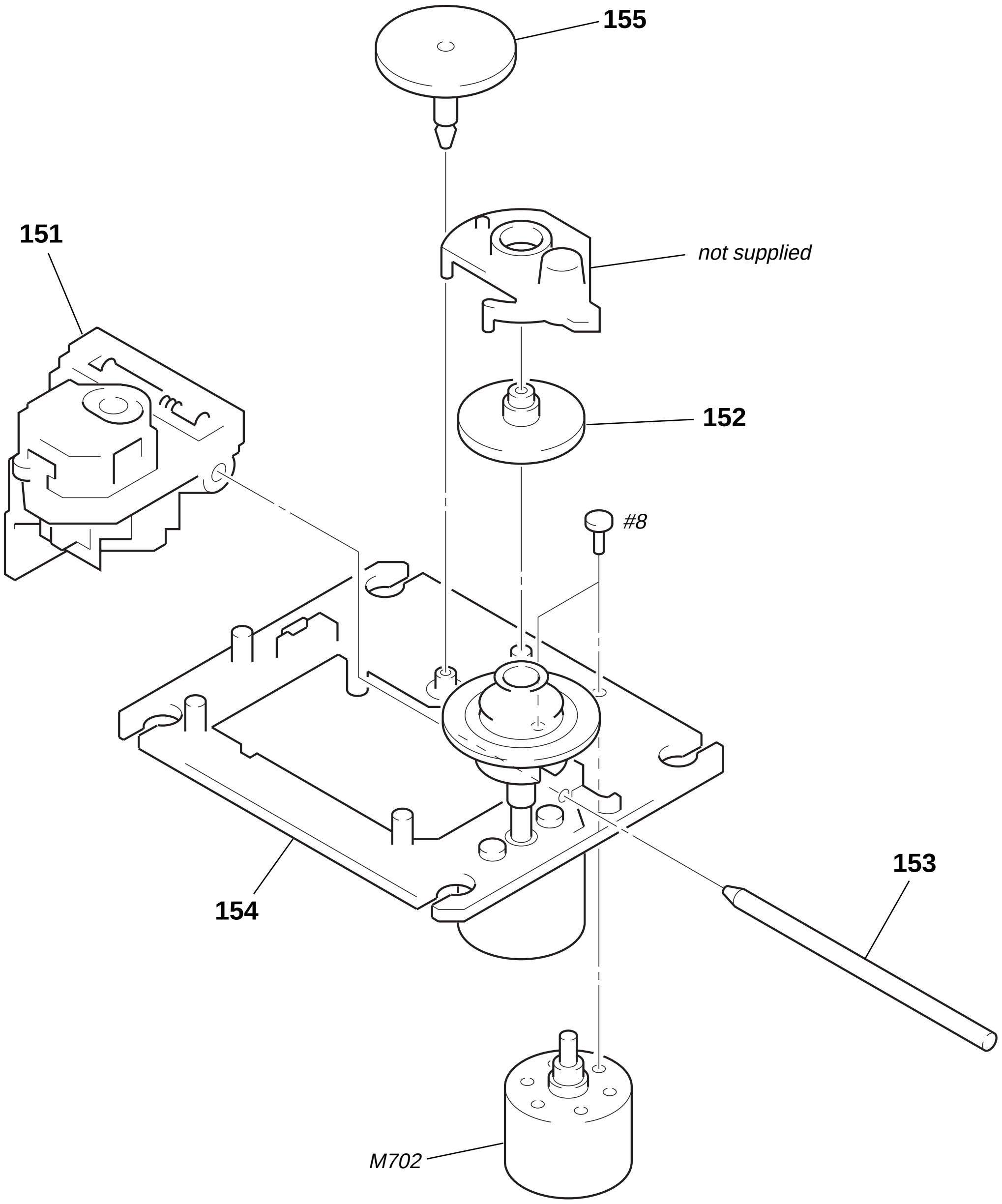
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

8-3. CD MECHANISM SECTION (KSM-213CDM/M-S)



Ref. No.	Part No.	Description	Remarks
* 100	A-3293-850-A	MAIN BOARD, COMPLETE (US,CND)	
* 100	A-3293-877-A	MAIN BOARD, COMPLETE (AEP,IT,UK,E)	
101	3-938-884-01	SPRING, CD COIL	
102	3-017-878-01	SLIDER, PUSH	
103	1-692-960-11	SWITCH, PUSH (1 KEY)	
104	3-017-450-01	SPRING, CD OPEN	
105	3-017-472-11	LID, CD	
106	1-452-732-11	MAGNET	
107	3-016-397-01	PLATE (KSM-213-CDM), CHUCKING	
108	3-911-135-01	SCREW (2.6X10), (+PWH) TAPPING	
109	3-351-377-11	GEAR, DAMPER	
110	3-931-379-21	RUBBER, VIBRATION PROOF	
111	3-931-379-31	RUBBER, VIBRATION PROOF	
112	3-910-116-01	COVER, CD	
113	1-782-629-11	WIRE, PARALLEL (FFC) (14 CORE)	
114	1-782-630-11	WIRE, PARALLEL (FFC) (13 CORE)	
115	1-782-627-11	WIRE, PARALLEL (FFC) (27 CORE)	
116	1-782-628-11	WIRE, PARALLEL (FFC) (20 CORE)	
117	1-782-631-11	WIRE, PARALLEL (FFC) (16 CORE)	
118	3-831-441-99	CUSHION, SPEAKER	

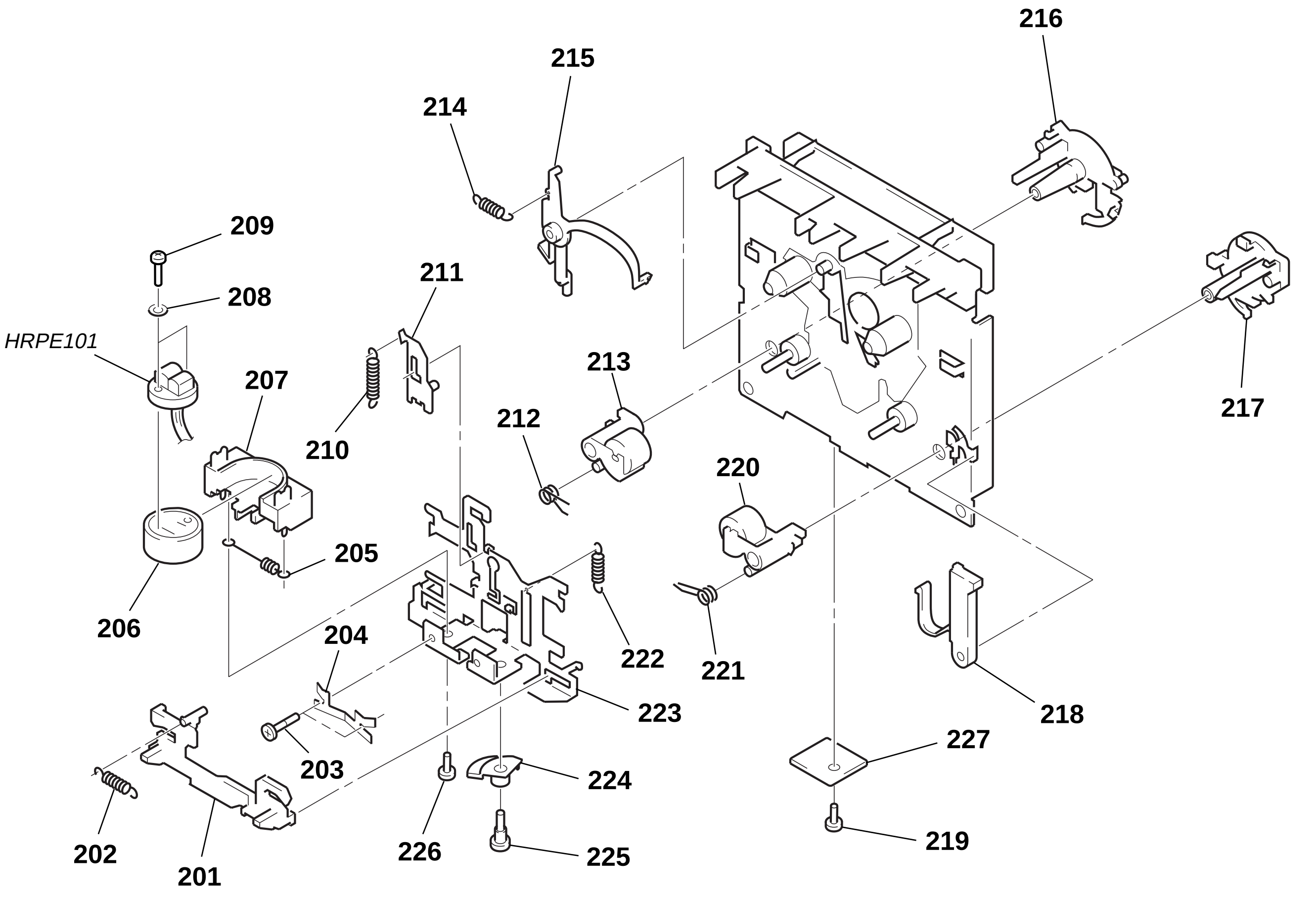
8-4. OPTICAL PICK UP SECTION



Ref. No.	Part No.	Description	Remarks
⚠151	8-848-483-05	OPTICAL, PIC-UP KSS-213C/Q-RP	
152	2-627-003-02	GEAR (B) (RP)	
153	2-626-908-01	SHAFT, SLED	
154	X-2626-202-1	CHASSIS ASSY (MB) (RP), MOTOR	
155	2-626-907-01	GEAR (A)	
M702	X-2625-769-1	GEAR ASSY (MB), MOTOR	

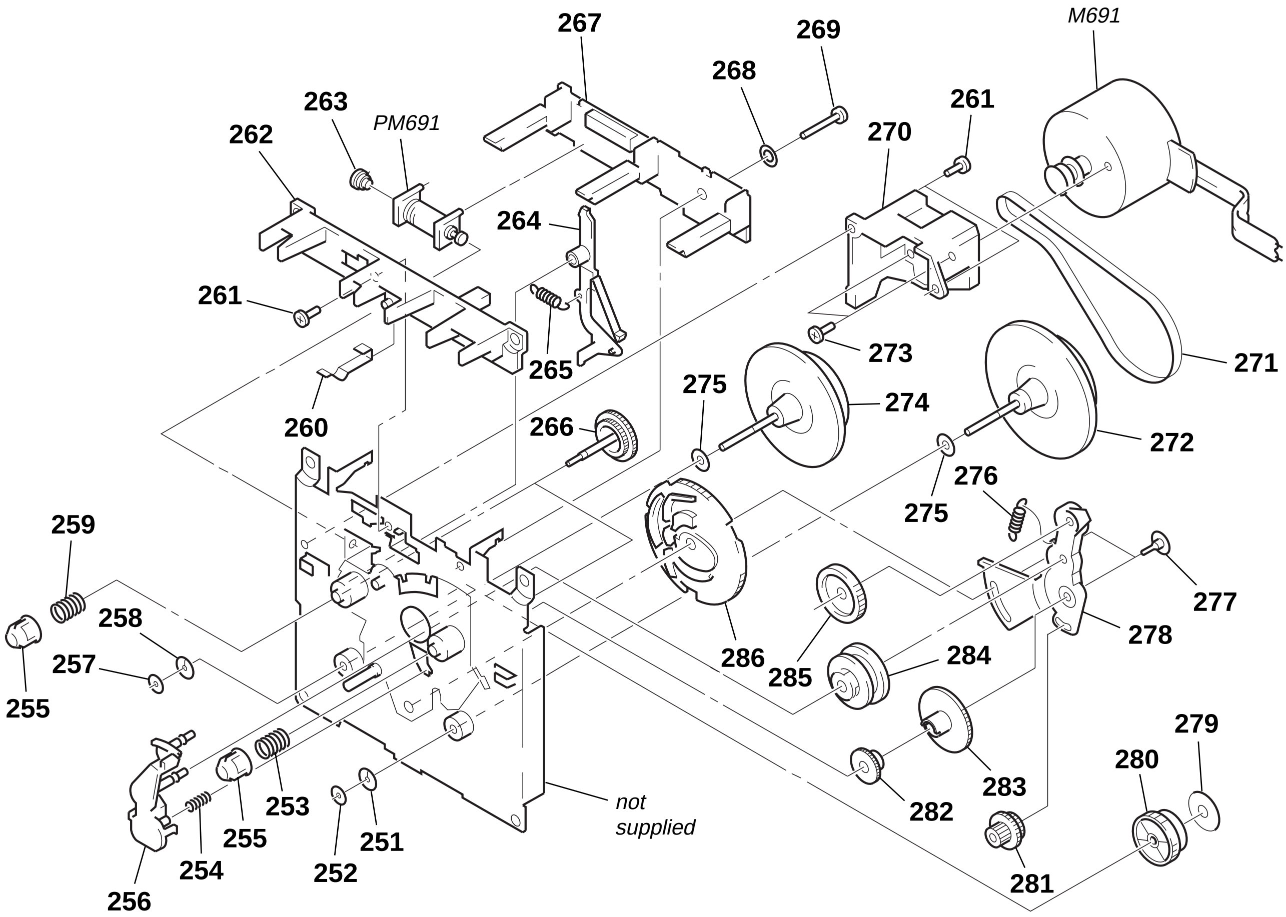
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

8-5. CASSETTE MECHANISM DECK SECTION-1 (MF-D55-144)



Ref. No.	Part No.	Description	Remarks
201	3-938-905-01	HEAD, LEVER	
202	3-938-940-01	SPRING (L)	
203	3-938-941-01	SCREW (A)	
204	3-938-906-01	AZIMUTH, SPRING	
205	3-017-432-01	SPRING (A)	
206	3-938-901-01	HEAD, HOLDER	
* 207	3-938-904-01	HEAD, FRAME	
208	3-938-902-01	WASHER	
209	3-938-903-01	SCREW	
210	3-938-935-01	SPRING (G)	
211	X-3374-292-1	ASSIST ASSY, LEVER	
212	3-938-933-01	SPRING (E)	
213	3-017-592-01	ARM (PINCH L) ASSY	
214	3-938-934-01	SPRING (F)	
* 215	3-938-916-01	BRAKE, ARM	
* 216	3-938-914-01	FRAME (C)	
* 217	3-938-913-01	FRAME (B)	
* 218	3-938-909-01	LOCK, EJECT	
219	3-938-944-01	SCREW (D)	
220	3-017-591-01	ARM (PINCH R) ASSY	
221	3-938-937-01	SPRING (I)	
222	3-938-938-01	SPRING (J)	
* 223	3-938-911-01	HEAD (B), CHASSIS	
224	3-938-907-01	HEAD, GEAR ARM	
225	3-938-943-01	SCREW (C)	
226	3-938-942-01	SCREW (B)	
227	1-662-743-11	HEAD BOARD	
HRPE101	1-500-480-11	HEAD, MAGNETIC (REC/PB/ERASE)	

8-6. CASSETTE MECHANISM DECK SECTION-2 (MF-D55-144)



Ref. No.	Part No.	Description	Remarks
251	3-938-949-01	WASHER (B)	
252	3-938-951-01	WASHER (D)	
253	3-938-936-01	SPRING (H)	
254	3-938-930-01	SPRING (B)	
255	3-938-910-01	REEL, CAP	
* 256	3-938-912-01	ARM (UD)	
257	3-938-952-01	WASHER (E)	
258	3-938-948-01	WASHER (A)	
259	3-938-932-01	SPRING (D)	
260	3-938-908-01	CASSETTE, SPRING	
261	3-938-945-01	SCREW (E)	
262	3-017-428-01	FRAME (D)	
263	3-938-920-01	PLUNGER, K	
* 264	3-938-918-01	TRIGGER, ARM	
265	3-938-931-01	SPRING (C)	
266	3-938-921-01	GEAR (REEL)	
* 267	1-662-742-11	SW BOARD	
268	3-938-954-01	WASHER (G)	
269	3-938-947-01	SCREW (G)	

Ref. No.	Part No.	Description	Remarks
270	3-017-431-01	BRACKET (MM)	
271	3-017-430-01	BELT	
272	3-017-596-01	FLYWHEEL (R) ASSY	
273	3-017-434-01	SCREW (H)	
274	3-017-595-01	FLYWHEEL (L) ASSY	
275	3-938-950-01	WASHER (C)	
276	3-017-433-01	SPRING (K)	
277	3-938-946-01	SCREW (F)	
* 278	3-938-919-01	ARM (FR)	
279	3-017-435-01	REFLECTOR	
280	3-017-429-01	GEAR (REF)	
281	3-938-917-01	GEAR (A)	
282	3-938-924-01	GEAR (P)	
283	3-938-923-01	GEAR (FR)	
284	X-3374-293-1	CLUTCH ASSY	
285	3-938-925-01	GEAR (IDL)	
286	3-938-922-01	GEAR (CAM)	
M691	X-3374-291-1	MOTOR ASSY	
PM691	1-454-806-11	SOLENOID, PLUNGER	

BATTERY (L) **BATTERY (S)**

CD MOTOR **CONTROL**

SECTION 9
ELECTRICAL PARTS LIST

NOTE:

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- Abbreviation
  CND : Canadian
  IT : Italian

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: μF

- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: μH
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA... , uPA... , μPA... ,
  uPB... , μPB... , uPC... , μPC... ,
  uPD..., μPD...

Ref. No.	Part No.	Description			Remarks
*	1-666-860-11	BATTERY (L) BOARD (US,CND)			
		*****************			
*	1-666-860-21	BATTERY (L) BOARD (AEP,IT,UK,E)			
		*****************			
	3-017-439-01	SPRING (-) (L), BATTERY			
**					
*	1-666-861-11	BATTERY (S) BOARD (US,CND)			
		*****************			
*	1-666-861-21	BATTERY (S) BOARD (AEP,IT,UK,E)			
		*****************			
	3-939-057-01	SPRING (-), BACK UP			
		< CONNECTOR >			
CN903	1-564-505-11	PLUG, CONNECTOR 2P			
CN904	1-564-506-11	PLUG, CONNECTOR 3P			
**					
*	1-639-678-12	CD MOTOR BOARD			
		****************			
	1-564-722-11	PIN, CONNECTOR (SMALL TYPE) 6P			
	1-572-085-11	SWITCH, LEAF			
**					
*	A-3321-148-A	CONTROL BOARD, COMPLETE (US,CND)			
		*************************			
*	A-3321-186-A	CONTROL BOARD, COMPLETE (AEP,IT,UK,E)			
		*************************			
	3-017-444-01	HOLDER, LCD			
	3-019-236-01	ILLUMINATOR (LCD)			
	7-685-535-14	SCREW +BTP 2.6X10 TYPE2 N-S			
		< CAPACITOR >			
C800	1-164-159-21	CERAMIC	0.1uF		50V
C801	1-164-159-21	CERAMIC	0.1uF		50V
C803	1-162-306-11	CERAMIC	0.01uF	30%	16V
C806	1-126-967-11	ELECT	47uF	20%	10V
C807	1-126-964-11	ELECT	10uF	20%	50V
C808	1-102-514-11	CERAMIC	22PF	5%	50V
C809	1-102-516-11	CERAMIC	27PF	5%	50V
C810	1-162-282-31	CERAMIC	100PF	10%	50V
C811	1-162-282-31	CERAMIC	100PF	10%	50V
C812	1-102-960-00	CERAMIC	24PF	5%	50V
C813	1-102-960-00	CERAMIC	24PF	5%	50V
C815	1-136-165-00	FILM	0.1uF	5%	50V
C817	1-162-306-11	CERAMIC	0.01uF	30%	16V
C818	1-162-306-11	CERAMIC	0.01uF	30%	16V
C819	1-102-960-00	CERAMIC	24PF	5%	50V

Ref. No.	Part No.	Description			Remarks
C820	1-102-960-00	CERAMIC	24PF	5%	50V
C822	1-162-294-31	CERAMIC	0.001uF	10%	50V
C823	1-162-294-31	CERAMIC	0.001uF	10%	50V
C824	1-162-294-31	CERAMIC	0.001uF	10%	50V
C825	1-136-165-00	FILM	0.1uF	5%	50V
C826	1-162-294-31	CERAMIC	0.001uF	10%	50V
C827	1-162-294-31	CERAMIC	0.001uF	10%	50V
C828	1-162-294-31	CERAMIC	0.001uF	10%	50V
C829	1-162-294-31	CERAMIC	0.001uF	10%	50V
C830	1-162-294-31	CERAMIC	0.001uF	10%	50V
C831	1-162-294-31	CERAMIC	0.001uF	10%	50V
C832	1-162-294-31	CERAMIC	0.001uF	10%	50V
C833	1-162-294-31	CERAMIC	0.001uF	10%	50V
C834	1-162-294-31	CERAMIC	0.001uF	10%	50V
C835	1-162-294-31	CERAMIC	0.001uF	10%	50V
C836	1-162-294-31	CERAMIC	0.001uF	10%	50V
C837	1-162-294-31	CERAMIC	0.001uF	10%	50V
C838	1-162-294-31	CERAMIC	0.001uF	10%	50V
C839	1-162-294-31	CERAMIC	0.001uF	10%	50V
C841	1-162-294-31	CERAMIC	0.001uF	10%	50V
C842	1-162-294-31	CERAMIC	0.001uF	10%	50V
C843	1-162-294-31	CERAMIC	0.001uF	10%	50V
C844	1-162-294-31	CERAMIC	0.001uF	10%	50V
C845	1-162-294-31	CERAMIC	0.001uF	10%	50V (US,CND)
C846	1-162-282-31	CERAMIC	100PF	10%	50V
C847	1-162-282-31	CERAMIC	100PF	10%	50V
C848	1-162-294-31	CERAMIC	0.001uF	10%	50V
C849	1-162-282-31	CERAMIC	100PF	10%	50V
C850	1-162-306-11	CERAMIC	0.01uF	30%	16V
C851	1-162-282-31	CERAMIC	100PF	10%	50V (US,CND)
C852	1-162-306-11	CERAMIC	0.01uF	30%	16V (AEP,IT,UK,E)
C853	1-162-282-31	CERAMIC	100PF	10%	50V
		< CONNECTOR >			
CN801	1-691-071-31	HOUSING, CONNECTOR 12P			
* CN802	1-695-381-31	PIN, CONNECTOR (PC BOARD) 20P			
CN803	1-695-388-21	PIN, CONNECTOR (PC BOARD) 27P			
* CN804	1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P			
		< DIODE >			
D801	8-719-991-33	DIODE 1SS133T-77			
D802	8-719-991-33	DIODE 1SS133T-77			
D803	8-719-991-33	DIODE 1SS133T-77			
D804	8-719-991-33	DIODE 1SS133T-77			

Ref. No.	Part No.	Description	Remarks
		< IC >	
IC801	8-752-890-50	IC CXP83124A-021Q (US,CND)	
IC801	8-752-894-98	IC CXP83124A-027Q (AEP,IT,UK,E)	
IC803	8-759-430-16	IC PST600I	
		< COIL >	
L803	1-410-509-11	INDUCTOR 10uH	
L804	1-410-509-11	INDUCTOR 10uH	
		< LIQUID CRYSTAL DISPLAY >	
LCD801	1-801-874-11	DISPLAY PANEL, LIQUID CRYSTAL	
		< PILOT LAMP >	
PL801	1-517-487-11	LAMP, PILOT	
PL802	1-517-487-11	LAMP, PILOT	
		< TRANSISTOR >	
Q803	8-729-922-66	TRANSISTOR 2SC2410SN	
Q804	8-729-922-66	TRANSISTOR 2SC2410SN	
Q805	8-729-029-49	TRANSISTOR DTA143TSA-TP	
		< RESISTOR >	
R801	1-249-417-11	CARBON 1K 5% 1/4W	F
R803	1-247-807-31	CARBON 100 5% 1/4W	
R804	1-249-417-11	CARBON 1K 5% 1/4W	F
R805	1-249-417-11	CARBON 1K 5% 1/4W	F
R806	1-249-417-11	CARBON 1K 5% 1/4W	F
R807	1-249-417-11	CARBON 1K 5% 1/4W	F
R808	1-249-417-11	CARBON 1K 5% 1/4W	F
R809	1-249-417-11	CARBON 1K 5% 1/4W	F
R810	1-249-417-11	CARBON 1K 5% 1/4W	F
R811	1-249-417-11	CARBON 1K 5% 1/4W	F
R812	1-247-807-31	CARBON 100 5% 1/4W	
R813	1-249-417-11	CARBON 1K 5% 1/4W	F
R814	1-249-417-11	CARBON 1K 5% 1/4W	F
R815	1-249-417-11	CARBON 1K 5% 1/4W	F
R816	1-249-417-11	CARBON 1K 5% 1/4W	F
R817	1-249-417-11	CARBON 1K 5% 1/4W	F
R818	1-249-417-11	CARBON 1K 5% 1/4W	F
R819	1-249-417-11	CARBON 1K 5% 1/4W	F
R820	1-249-417-11	CARBON 1K 5% 1/4W	F
R821	1-249-417-11	CARBON 1K 5% 1/4W	F
R822	1-249-417-11	CARBON 1K 5% 1/4W	F
R823	1-249-417-11	CARBON 1K 5% 1/4W	F
R824	1-249-417-11	CARBON 1K 5% 1/4W	F
R825	1-249-417-11	CARBON 1K 5% 1/4W	F
R826	1-249-417-11	CARBON 1K 5% 1/4W	F
R827	1-249-417-11	CARBON 1K 5% 1/4W	F
R828	1-249-417-11	CARBON 1K 5% 1/4W	F
R829	1-249-426-11	CARBON 5.6K 5% 1/4W	
R830	1-249-417-11	CARBON 1K 5% 1/4W	F
R831	1-249-417-11	CARBON 1K 5% 1/4W	F
R832	1-249-417-11	CARBON 1K 5% 1/4W	F
R833	1-249-417-11	CARBON 1K 5% 1/4W	F
R834	1-249-417-11	CARBON 1K 5% 1/4W	F
R835	1-249-417-11	CARBON 1K 5% 1/4W	F
R836	1-249-417-11	CARBON 1K 5% 1/4W	F

Ref. No.	Part No.	Description	Remarks
R837	1-249-417-11	CARBON 1K 5% 1/4W	F
R838	1-249-417-11	CARBON 1K 5% 1/4W	F
R839	1-249-417-11	CARBON 1K 5% 1/4W	F
R840	1-249-417-11	CARBON 1K 5% 1/4W	F
R841	1-249-417-11	CARBON 1K 5% 1/4W	F
R842	1-249-417-11	CARBON 1K 5% 1/4W	F
R843	1-249-437-11	CARBON 47K 5% 1/4W	
R844	1-249-415-11	CARBON 680 5% 1/4W	F (US,CND)
R844	1-249-422-11	CARBON 2.7K 5% 1/4W	F (AEP,IT,UK,E)
R845	1-249-417-11	CARBON 1K 5% 1/4W	F
R846	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R847	1-247-885-00	CARBON 180K 5% 1/4W	
R848	1-249-441-11	CARBON 100K 5% 1/4W	
R849	1-247-883-00	CARBON 150K 5% 1/4W	
R850	1-247-883-00	CARBON 150K 5% 1/4W	
R851	1-249-413-11	CARBON 470 5% 1/4W	F
R852	1-249-429-11	CARBON 10K 5% 1/4W	
R853	1-249-417-11	CARBON 1K 5% 1/4W	F
R854	1-249-425-11	CARBON 4.7K 5% 1/4W	F
R855	1-249-415-11	CARBON 680 5% 1/4W	F
R856	1-249-416-11	CARBON 820 5% 1/4W	F
R857	1-249-418-11	CARBON 1.2K 5% 1/4W	F
R858	1-249-420-11	CARBON 1.8K 5% 1/4W	F
R859	1-247-843-11	CARBON 3.3K 5% 1/4W	
R860	1-249-427-11	CARBON 6.8K 5% 1/4W	F
R861	1-249-432-11	CARBON 18K 5% 1/4W	
R890	1-249-417-11	CARBON 1K 5% 1/4W	F
R891	1-249-437-11	CARBON 47K 5% 1/4W	
R894	1-247-843-11	CARBON 3.3K 5% 1/4W	
R896	1-247-887-00	CARBON 220K 5% 1/4W	
R897	1-247-895-91	CARBON 470K 5% 1/4W	
		< SWITCH >	
S801	1-554-088-00	SWITCH, KEY BOARD (STBY)	
S802	1-554-088-00	SWITCH, KEY BOARD (SLEEP)	
S803	1-554-088-00	SWITCH, KEY BOARD (CLOCK)	
S804	1-554-088-00	SWITCH, KEY BOARD (PGM SET AUTI PRESET)	
S805	1-554-088-00	SWITCH, KEY BOARD (PLAY MODE MONO/ST)	
S806	1-554-088-00	SWITCH, KEY BOARD (CANCEL)	
S807	1-554-088-00	SWITCH, KEY BOARD (SOUND)	
S808	1-554-088-00	SWITCH, KEY BOARD (MEGABASS)	
		< VIBRATOR >	
X801	1-767-184-11	VIBRATOR, CERAMIC (4.21MHz)	
X802	1-567-098-41	VIBRATOR, CRYSTAL (32.768kHz)	

****

Ref. No.	Part No.	Description	Remarks
*	1-666-856-11	H/P BOARD (US,CND) **********	
*	1-666-856-21	H/P BOARD (AEP,IT,UK,E) **********	
	3-831-441-99	CUSHION, SPEAKER	
		< CONNECTOR >	
* CN305	1-564-507-11	PLUG, CONNECTOR 4P	
* CN306	1-564-519-11	PLUG, CONNECTOR 4P	

H/P LAMP MAIN

Ref. No.	Part No.	Description			Remarks
		< JACK >			
J301	1-566-891-11	JACK (H/P JACK)			
		< COIL >			
L101	1-410-314-11	INDUCTOR 0.47uH			
L201	1-410-314-11	INDUCTOR 0.47uH			
L304	1-410-314-11	INDUCTOR 0.47uH			
		< RESISTOR >			
R170	1-249-407-11	CARBON	150	5%	1/4W F
R270	1-249-407-11	CARBON	150	5%	1/4W F

****

Ref. No.	Part No.	Description			Remarks
*	1-667-132-11	LAMP BOARD (US,CND) ************			
*	1-667-132-21	LAMP BOARD (AEP,IT,UK,E) ************			
		< PILOT LAMP >			
PL801	1-517-487-11	LAMP, PILOT			
PL802	1-517-487-11	LAMP, PILOT			

****

Ref. No.	Part No.	Description			Remarks
*	A-3293-850-A	MAIN BOARD, COMPLETE (US,CND) *********************			
*	A-3293-877-A	MAIN BOARD, COMPLETE (AEP,IT,UK,E) *********************			
	1-782-627-11	WIRE, PARALLEL (FFC) (27 CORE)			
	1-782-628-11	WIRE, PARALLEL (FFC) (20 CORE)			
	1-782-629-11	WIRE, PARALLEL (FFC) (14 CORE)			
	1-782-630-11	WIRE, PARALLEL (FFC) (13 CORE)			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3			
		< CAPACITOR >			
C101	1-162-215-31	CERAMIC	47PF	5%	50V
C107	1-126-963-11	ELECT	4.7uF	20%	50V
C109	1-162-215-31	CERAMIC	47PF	5%	50V
C110	1-126-960-11	ELECT	1uF	20%	50V
C111	1-161-061-11	CERAMIC	0.068uF	10%	50V
C112	1-161-061-11	CERAMIC	0.068uF	10%	50V
C113	1-162-837-11	CERAMIC	0.0068uF	10%	16V
C114	1-126-964-11	ELECT	10uF	20%	50V
C115	1-161-055-00	CERAMIC	0.022uF	10%	50V
C118	1-126-927-11	ELECT	2200uF	20%	10V
C119	1-136-165-00	FILM	0.1uF	5%	50V
C120	1-126-960-11	ELECT	1uF	20%	50V
C121	1-126-967-11	ELECT	47uF	20%	10V
C126	1-136-153-00	FILM	0.01uF	5%	50V
C132	1-126-960-11	ELECT	1uF	20%	50V
C134	1-126-933-11	ELECT	100uF	20%	10V
C135	1-162-286-21	CERAMIC	220PF	10%	50V
C201	1-162-215-31	CERAMIC	47PF	5%	50V
C207	1-126-963-11	ELECT	4.7uF	20%	50V
C209	1-162-215-31	CERAMIC	47PF	5%	50V
C210	1-126-960-11	ELECT	1uF	20%	50V
C211	1-161-061-11	CERAMIC	0.068uF	10%	50V
C212	1-161-061-11	CERAMIC	0.068uF	10%	50V
C213	1-162-837-11	CERAMIC	0.0068uF	10%	16V
C214	1-126-964-11	ELECT	10uF	20%	50V

Ref. No.	Part No.	Description			Remarks
C215	1-161-055-00	CERAMIC	0.022uF	10%	50V
C218	1-126-927-11	ELECT	2200uF	20%	10V
C219	1-136-165-00	FILM	0.1uF	5%	50V
C220	1-126-960-11	ELECT	1uF	20%	50V
C221	1-126-967-11	ELECT	47uF	20%	10V
C226	1-136-153-00	FILM	0.01uF	5%	50V
C232	1-126-960-11	ELECT	1uF	20%	50V
C234	1-126-933-11	ELECT	100uF	20%	10V
C235	1-162-286-21	CERAMIC	220PF	10%	50V
C302	1-126-967-11	ELECT	47uF	20%	10V
C310	1-161-055-00	CERAMIC	0.022uF	10%	50V
C311	1-126-933-11	ELECT	100uF	20%	10V
C312	1-126-967-11	ELECT	47uF	20%	10V
C313	1-126-967-11	ELECT	47uF	20%	10V
C314	1-126-933-11	ELECT	100uF	20%	10V
C315	1-126-967-11	ELECT	47uF	20%	10V
C316	1-126-933-11	ELECT	100uF	20%	10V
C318	1-126-934-11	ELECT	220uF	20%	10V
C319	1-126-963-11	ELECT	4.7uF	20%	50V
C320	1-128-551-11	ELECT	22uF	20%	25V
C321	1-162-851-11	CERAMIC	0.1uF	10%	16V
C322	1-162-851-11	CERAMIC	0.1uF	10%	16V
C323	1-126-963-11	ELECT	4.7uF	20%	50V
C325	1-126-933-11	ELECT	100uF	20%	10V
C326	1-162-306-11	CERAMIC	0.01uF	30%	16V
C327	1-126-934-11	ELECT	220uF	20%	10V
C330	1-162-294-31	CERAMIC	0.001uF	10%	50V
C331	1-162-292-31	CERAMIC	680PF	10%	50V
C332	1-161-055-00	CERAMIC	0.022uF	10%	50V
C333	1-124-252-00	ELECT	0.33uF	20%	50V
C334	1-126-963-11	ELECT	4.7uF	20%	50V
C335	1-126-962-11	ELECT	3.3uF	20%	50V
C336	1-126-961-11	ELECT	2.2uF	20%	50V
C337	1-126-964-11	ELECT	10uF	20%	50V
C338	1-126-934-11	ELECT	220uF	20%	10V
C339	1-128-551-11	ELECT	22uF	20%	25V
C342	1-104-666-11	ELECT	220uF	20%	25V
C345	1-130-499-00	MYLAR	0.22uF	5%	50V
C346	1-126-959-11	ELECT	0.47uF	20%	50V
C347	1-161-055-00	CERAMIC	0.022uF	10%	50V
C348	1-161-055-00	CERAMIC	0.022uF	10%	50V
C349	1-126-967-11	ELECT	47uF	20%	10V
C350	1-126-933-11	ELECT	100uF	20%	10V
C351	1-162-851-11	CERAMIC	0.1uF	10%	16V
C352	1-136-153-00	FILM	0.01uF	5%	50V
C362	1-126-960-11	ELECT	1uF	20%	50V
C399	1-136-165-00	FILM	0.1uF	5%	50V
C700	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C701	1-136-153-00	FILM	0.01uF	5%	50V
C702	1-162-851-11	CERAMIC	0.1uF	10%	16V
C703	1-162-851-11	CERAMIC	0.1uF	10%	16V
C704	1-126-963-11	ELECT	4.7uF	20%	50V
C705	1-130-489-00	MYLAR	0.033uF	5%	50V
C706	1-130-486-00	MYLAR	0.018uF	10%	50V
C707	1-162-199-31	CERAMIC	10PF	5%	50V
C708	1-126-962-11	ELECT	3.3uF	20%	50V
C709	1-130-493-00	MYLAR	0.068uF	5%	50V
C710	1-162-215-31	CERAMIC	47PF	5%	50V
C711	1-130-489-00	MYLAR	0.033uF	5%	50V
C712	1-162-306-11	CERAMIC	0.01uF	30%	16V

Ref. No.	Part No.	Description			Remarks
C713	1-136-153-00	FILM	0.01uF	5%	50V
C714	1-130-493-00	MYLAR	0.068uF	5%	50V
C715	1-126-960-11	ELECT	1uF	20%	50V
C716	1-162-199-31	CERAMIC	10PF	5%	50V
C717	1-126-967-11	ELECT	47uF	20%	10V
C718	1-162-294-31	CERAMIC	0.001uF	10%	50V
C719	1-130-491-00	MYLAR	0.047uF	5%	50V
C720	1-162-305-11	CERAMIC	0.0068uF	30%	16V
C721	1-101-005-00	CERAMIC	22000PF		50V
C722	1-162-306-11	CERAMIC	0.01uF	30%	16V
C723	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C724	1-162-851-11	CERAMIC	0.1uF	10%	16V
C725	1-101-005-00	CERAMIC	22000PF		50V
C726	1-126-964-11	ELECT	10uF	20%	50V
C727	1-162-306-11	CERAMIC	0.01uF	30%	16V
C728	1-126-934-11	ELECT	220uF	20%	10V
C729	1-162-306-11	CERAMIC	0.01uF	30%	16V
C730	1-126-967-11	ELECT	47uF	20%	10V
C731	1-136-153-00	FILM	0.01uF	5%	50V
C732	1-126-967-11	ELECT	47uF	20%	10V
C733	1-126-959-11	ELECT	0.47uF	20%	50V
C734	1-162-306-11	CERAMIC	0.01uF	30%	16V
C735	1-162-290-31	CERAMIC	470PF	10%	50V
C736	1-162-286-21	CERAMIC	220PF	10%	50V
C737	1-162-306-11	CERAMIC	0.01uF	30%	16V
C738	1-130-499-00	MYLAR	0.22uF	5%	50V
C739	1-162-306-11	CERAMIC	0.01uF	30%	16V
C740	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C742	1-162-199-31	CERAMIC	10PF	5%	50V
C743	1-162-199-31	CERAMIC	10PF	5%	50V
C745	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C747	1-126-964-11	ELECT	10uF	20%	50V
C748	1-162-851-11	CERAMIC	0.1uF	10%	16V
C749	1-126-967-11	ELECT	47uF	20%	10V
C750	1-126-924-11	ELECT	330uF	20%	10V
C751	1-136-153-00	FILM	0.01uF	5%	50V
C752	1-162-306-11	CERAMIC	0.01uF	30%	16V
C753	1-126-935-11	ELECT	470uF	20%	16V
C755	1-162-294-31	CERAMIC	0.001uF	10%	50V
C760	1-126-963-11	ELECT	4.7uF	20%	50V
C761	1-162-290-31	CERAMIC	470PF	10%	50V
C762	1-162-290-31	CERAMIC	470PF	10%	50V
C763	1-162-306-11	CERAMIC	0.01uF	30%	16V
C770	1-126-963-11	ELECT	4.7uF	20%	50V
C771	1-162-294-31	CERAMIC	0.001uF	10%	50V
C772	1-162-306-11	CERAMIC	0.01uF	30%	16V
C773	1-162-851-11	CERAMIC	0.1uF	10%	16V
C797	1-162-306-11	CERAMIC	0.01uF	30%	16V
C798	1-162-294-31	CERAMIC	0.001uF	10%	50V
C799	1-162-294-31	CERAMIC	0.001uF	10%	50V
		< CONNECTOR >			
* CN301	1-695-337-31	PIN, CONNECTOR (PC BOARD) 14P			
* CN302	1-695-381-31	PIN, CONNECTOR (PC BOARD) 20P			
CN303	1-695-388-21	PIN, CONNECTOR (PC BOARD) 27P			
CN304	1-695-336-31	PIN, CONNECTOR (PC BOARD) 13P			
CN701	1-774-975-11	CONNECTOR, FFC/FPC 16P			

Ref. No.	Part No.	Description	Remarks
		< DIODE >	
D301	8-719-991-33	DIODE 1SS133T-77	
D302	8-719-991-33	DIODE 1SS133T-77	
D303	8-719-991-33	DIODE 1SS133T-77	
D304	8-719-991-33	DIODE 1SS133T-77	
D306	8-719-991-33	DIODE 1SS133T-77	
D310	8-719-109-89	DIODE RD5.6ESB2	
D311	8-719-991-33	DIODE 1SS133T-77	
D313	8-719-991-33	DIODE 1SS133T-77	
D314	8-719-991-33	DIODE 1SS133T-77	
D361	8-719-991-33	DIODE 1SS133T-77	
D702	8-719-991-33	DIODE 1SS133T-77	
		< FERRITE BEAD >	
FB701	1-410-397-21	FERRITE BEAD INDUCTOR	
FB702	1-410-397-21	FERRITE BEAD INDUCTOR	
FB703	1-410-397-21	FERRITE BEAD INDUCTOR	
FB704	1-410-397-21	FERRITE BEAD INDUCTOR	
FB705	1-410-397-21	FERRITE BEAD INDUCTOR	
		< IC >	
IC302	8-759-432-41	IC BH3854AS	
IC303	8-759-800-71	IC LA2010	
IC304	8-759-820-22	IC LA4597	
IC305	8-759-076-15	IC KIA4558P	
IC309	8-759-479-70	IC S-81250SGY-Z	
IC701	8-752-082-14	IC CXA1992BR	
IC702	8-752-380-64	IC CXD2529Q	
IC703	8-759-478-60	IC BA6898S	
		< COIL >	
L301	1-410-509-11	INDUCTOR 10uH	
L302	1-410-509-11	INDUCTOR 10uH	
L303	1-410-509-11	INDUCTOR 10uH	
L701	1-412-852-11	INDUCTOR 47uH	
		< TRANSISTOR >	
Q101	8-729-115-80	TRANSISTOR BA1A4P	
Q101	8-729-029-72	TRANSISTOR DTC114YS-TP	
Q103	8-729-905-50	TRANSISTOR DTC343TS	
Q104	8-729-905-50	TRANSISTOR DTC343TS	
Q105	8-729-905-50	TRANSISTOR DTC343TS	
Q106	8-729-905-50	TRANSISTOR DTC343TS	
Q107	8-729-905-50	TRANSISTOR DTC343TS	
Q201	8-729-115-80	TRANSISTOR BA1A4P	
Q203	8-729-905-50	TRANSISTOR DTC343TS	
Q204	8-729-905-50	TRANSISTOR DTC343TS	
Q205	8-729-905-50	TRANSISTOR DTC343TS	
Q206	8-729-905-50	TRANSISTOR DTC343TS	
Q207	8-729-905-50	TRANSISTOR DTC343TS	
Q301	8-729-115-80	TRANSISTOR BA1A4P	
Q311	8-729-036-86	TRANSISTOR KTC3203Y-AT	
Q312	8-729-115-82	TRANSISTOR BA1L4L-TP	
Q312	8-729-030-10	TRANSISTOR DTC144WS-TP	
Q313	8-729-920-94	TRANSISTOR DTA123YS	
Q314	8-729-115-80	TRANSISTOR BA1A4P	
Q315	8-729-036-86	TRANSISTOR KTC3203Y-AT	

MAIN

Ref. No.	Part No.	Description			Remarks
Q316	8-729-037-34	TRANSISTOR KRA107M			
Q316	8-729-902-80	TRANSISTOR DTA114YS			
Q317	8-729-036-89	TRANSISTOR KTC3198GR-AT			
Q318	8-729-801-84	TRANSISTOR 2SB1013-4			
Q319	8-729-115-80	TRANSISTOR BA1A4P			
Q320	8-729-115-80	TRANSISTOR BA1A4P			
Q321	8-729-037-34	TRANSISTOR KRA107M			
Q321	8-729-902-80	TRANSISTOR DTA114YS			
Q322	8-729-037-34	TRANSISTOR KRA107M			
Q322	8-729-902-80	TRANSISTOR DTA114YS			
Q323	8-729-037-34	TRANSISTOR KRA107M			
Q323	8-729-902-80	TRANSISTOR DTA114YS			
Q324	8-729-036-89	TRANSISTOR KTC3198GR-AT			
Q325	8-729-036-89	TRANSISTOR KTC3198GR-AT			
Q326	8-729-037-34	TRANSISTOR KRA107M			
Q326	8-729-902-80	TRANSISTOR DTA114YS			
Q327	8-729-036-89	TRANSISTOR KTC3198GR-AT			
Q328	8-729-115-80	TRANSISTOR BA1A4P			
Q329	8-729-037-34	TRANSISTOR KRA107M			
Q329	8-729-902-80	TRANSISTOR DTA114YS			
Q361	8-729-115-80	TRANSISTOR BA1A4P			
Q362	8-729-801-84	TRANSISTOR 2SB1013-4			
Q363	8-729-115-80	TRANSISTOR BA1A4P			
Q365	8-729-036-86	TRANSISTOR KTC3203Y-AT			
Q701	8-729-037-02	TRANSISTOR KTA1266Y-AT			
		< RESISTOR >			
R101	1-249-417-11	CARBON	1K	5%	1/4W F
R102	1-249-431-11	CARBON	15K	5%	1/4W
R107	1-247-843-11	CARBON	3.3K	5%	1/4W
R108	1-249-429-11	CARBON	10K	5%	1/4W
R109	1-249-426-11	CARBON	5.6K	5%	1/4W
R110	1-249-425-11	CARBON	4.7K	5%	1/4W F
R111	1-249-401-11	CARBON	47	5%	1/4W F
R112	1-249-427-11	CARBON	6.8K	5%	1/4W F
R113	1-249-419-11	CARBON	1.5K	5%	1/4W F
R114	1-249-417-11	CARBON	1K	5%	1/4W F
R115	1-249-417-11	CARBON	1K	5%	1/4W F
R116	1-249-441-11	CARBON	100K	5%	1/4W
R117	1-249-435-11	CARBON	33K	5%	1/4W
R118	1-249-429-11	CARBON	10K	5%	1/4W
R119	1-249-429-11	CARBON	10K	5%	1/4W
R120	1-249-420-11	CARBON	1.8K	5%	1/4W F
R123	1-249-401-11	CARBON	47	5%	1/4W F
R124	1-249-387-11	CARBON	3.3	5%	1/4W F
R125	1-249-421-11	CARBON	2.2K	5%	1/4W F
R131	1-249-431-11	CARBON	15K	5%	1/4W
R132	1-247-843-11	CARBON	3.3K	5%	1/4W
R133	1-249-437-11	CARBON	47K	5%	1/4W
R134	1-249-425-11	CARBON	4.7K	5%	1/4W F
R201	1-249-417-11	CARBON	1K	5%	1/4W F
R202	1-249-431-11	CARBON	15K	5%	1/4W
R207	1-247-843-11	CARBON	3.3K	5%	1/4W
R208	1-249-429-11	CARBON	10K	5%	1/4W
R209	1-249-426-11	CARBON	5.6K	5%	1/4W
R210	1-249-425-11	CARBON	4.7K	5%	1/4W F
R211	1-249-401-11	CARBON	47	5%	1/4W F

Ref. No.	Part No.	Description			Remarks
R212	1-249-427-11	CARBON	6.8K	5%	1/4W F
R213	1-249-419-11	CARBON	1.5K	5%	1/4W F
R214	1-249-417-11	CARBON	1K	5%	1/4W F
R215	1-249-417-11	CARBON	1K	5%	1/4W F
R216	1-249-441-11	CARBON	100K	5%	1/4W
R217	1-249-435-11	CARBON	33K	5%	1/4W
R218	1-249-429-11	CARBON	10K	5%	1/4W
R219	1-249-429-11	CARBON	10K	5%	1/4W
R220	1-249-420-11	CARBON	1.8K	5%	1/4W F
R223	1-249-401-11	CARBON	47	5%	1/4W F
R224	1-249-387-11	CARBON	3.3	5%	1/4W F
R225	1-249-421-11	CARBON	2.2K	5%	1/4W F
R231	1-249-431-11	CARBON	15K	5%	1/4W
R232	1-247-843-11	CARBON	3.3K	5%	1/4W
R233	1-249-437-11	CARBON	47K	5%	1/4W
R234	1-249-425-11	CARBON	4.7K	5%	1/4W F
R301	1-247-807-31	CARBON	100	5%	1/4W (US,CND)
R301	1-249-417-11	CARBON	1K	5%	1/4W F (AEP,IT,UK,E)
R313	1-249-426-11	CARBON	5.6K	5%	1/4W
R314	1-247-891-00	CARBON	330K	5%	1/4W
R315	1-249-441-11	CARBON	100K	5%	1/4W
R316	1-249-429-11	CARBON	10K	5%	1/4W
R317	1-249-430-11	CARBON	12K	5%	1/4W
R318	1-247-903-00	CARBON	1M	5%	1/4W
R319	1-247-903-00	CARBON	1M	5%	1/4W
R320	1-249-441-11	CARBON	100K	5%	1/4W
R321	1-249-432-11	CARBON	18K	5%	1/4W
R323	1-249-401-11	CARBON	47	5%	1/4W F
R324	1-249-429-11	CARBON	10K	5%	1/4W
R325	1-249-429-11	CARBON	10K	5%	1/4W
R326	1-249-429-11	CARBON	10K	5%	1/4W
R327	1-249-421-11	CARBON	2.2K	5%	1/4W F
R328	1-247-843-11	CARBON	3.3K	5%	1/4W
R329	1-247-903-00	CARBON	1M	5%	1/4W
R330	1-249-429-11	CARBON	10K	5%	1/4W
R331	1-249-429-11	CARBON	10K	5%	1/4W
R332	1-249-425-11	CARBON	4.7K	5%	1/4W F
R334	1-249-429-11	CARBON	10K	5%	1/4W
R335	1-249-407-11	CARBON	150	5%	1/4W F
R336	1-247-895-91	CARBON	470K	5%	1/4W
R337	1-249-437-11	CARBON	47K	5%	1/4W
R338	1-249-429-11	CARBON	10K	5%	1/4W
R340	1-249-425-11	CARBON	4.7K	5%	1/4W F
R341	1-249-418-11	CARBON	1.2K	5%	1/4W F
R342	1-247-903-00	CARBON	1M	5%	1/4W
R344	1-249-401-11	CARBON	47	5%	1/4W F
R345	1-249-425-11	CARBON	4.7K	5%	1/4W F
R346	1-249-429-11	CARBON	10K	5%	1/4W
R350	1-249-441-11	CARBON	100K	5%	1/4W
R361	1-249-417-11	CARBON	1K	5%	1/4W F
R362	1-249-441-11	CARBON	100K	5%	1/4W
R363	1-249-441-11	CARBON	100K	5%	1/4W
R364	1-249-441-11	CARBON	100K	5%	1/4W
R365	1-249-441-11	CARBON	100K	5%	1/4W
R366	1-249-435-11	CARBON	33K	5%	1/4W

Ref. No.	Part No.	Description			Remarks	
R367	1-249-441-11	CARBON	100K	5%	1/4W	
R368	1-249-441-11	CARBON	100K	5%	1/4W	
R369	1-249-417-11	CARBON	1K	5%	1/4W	F
R370	1-249-413-11	CARBON	470	5%	1/4W	F
R371	1-249-441-11	CARBON	100K	5%	1/4W	
R377	1-249-437-11	CARBON	47K	5%	1/4W	
R700	1-249-429-11	CARBON	10K	5%	1/4W	
R701	1-247-843-11	CARBON	3.3K	5%	1/4W	
R702	1-247-899-11	CARBON	680K	5%	1/4W	
R703	1-249-441-11	CARBON	100K	5%	1/4W	
R704	1-247-896-11	CARBON	510K	5%	1/4W	
R705	1-249-439-11	CARBON	68K	5%	1/4W	
R706	1-249-441-11	CARBON	100K	5%	1/4W	
R707	1-249-437-11	CARBON	47K	5%	1/4W	
R708	1-249-441-11	CARBON	100K	5%	1/4W	
R709	1-249-432-11	CARBON	18K	5%	1/4W	
R710	1-247-887-00	CARBON	220K	5%	1/4W	
R711	1-249-435-11	CARBON	33K	5%	1/4W	
R712	1-249-430-11	CARBON	12K	5%	1/4W	
R713	1-249-429-11	CARBON	10K	5%	1/4W	
R714	1-247-903-00	CARBON	1M	5%	1/4W	
R716	1-249-411-11	CARBON	330	5%	1/4W	
R718	1-249-393-11	CARBON	10	5%	1/4W	F
R719	1-249-441-11	CARBON	100K	5%	1/4W	
R720	1-249-441-11	CARBON	100K	5%	1/4W	
R721	1-249-441-11	CARBON	100K	5%	1/4W	
R722	1-249-441-11	CARBON	100K	5%	1/4W	
R723	1-249-440-11	CARBON	82K	5%	1/4W	
R724	1-249-440-11	CARBON	82K	5%	1/4W	
R725	1-247-891-00	CARBON	330K	5%	1/4W	
R726	1-247-883-00	CARBON	150K	5%	1/4W	
R727	1-247-883-00	CARBON	150K	5%	1/4W	
R728	1-247-887-00	CARBON	220K	5%	1/4W	
R731	1-249-437-11	CARBON	47K	5%	1/4W	
R732	1-249-437-11	CARBON	47K	5%	1/4W	
R733	1-247-843-11	CARBON	3.3K	5%	1/4W	
R734	1-249-417-11	CARBON	1K	5%	1/4W	F
R735	1-249-429-11	CARBON	10K	5%	1/4W	
R736	1-247-903-00	CARBON	1M	5%	1/4W	
R737	1-249-429-11	CARBON	10K	5%	1/4W	
R738	1-247-887-00	CARBON	220K	5%	1/4W	
R739	1-249-417-11	CARBON	1K	5%	1/4W	F
R740	1-249-417-11	CARBON	1K	5%	1/4W	F
R745	1-249-417-11	CARBON	1K	5%	1/4W	F
R746	1-249-435-11	CARBON	33K	5%	1/4W	
R747	1-247-863-91	CARBON	22K	5%	1/4W	
R748	1-249-437-11	CARBON	47K	5%	1/4W	
R749	1-247-843-11	CARBON	3.3K	5%	1/4W	
R750	1-249-417-11	CARBON	1K	5%	1/4W	F
R751	1-249-430-11	CARBON	12K	5%	1/4W	
R752	1-247-852-11	CARBON	7.5K	5%	1/4W	
R754	1-249-437-11	CARBON	47K	5%	1/4W	
R799	1-249-429-11	CARBON	10K	5%	1/4W	
		< VIBRATOR >				
X701	1-767-226-11	VIBRATOR, CRYSTAL (16.9344NHz)				

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Ref. No.	Part No.	Description			Remarks
*	A-3321-150-A	POWER BOARD, COMPLETE (US,CND)			
		***********************			
*	A-3293-875-A	POWER BOARD, COMPLETE (AEP,IT,UK,E)			
		***********************			
	1-533-233-21	HOLDER, FUSE			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3			
		< CAPACITOR >			
C900	1-128-548-11	ELECT	4700uF	20%	25V
C901	1-101-005-00	CERAMIC	22000PF		50V
C902	1-101-005-00	CERAMIC	22000PF		50V
C903	1-101-005-00	CERAMIC	22000PF		50V
C904	1-101-005-00	CERAMIC	22000PF		50V
C905	1-136-165-00	FILM	0.1uF	5%	50V
					(AEP,IT,UK,E)
C906	1-161-055-00	CERAMIC	0.022uF	10%	50V
C907	1-161-055-00	CERAMIC	0.022uF	10%	50V
C908	1-126-967-11	ELECT	47uF	20%	10V
C909	1-126-934-11	ELECT	220uF	20%	10V
C910	1-161-055-00	CERAMIC	0.022uF	10%	50V
C911	1-161-055-00	CERAMIC	0.022uF	10%	50V
C912	1-126-934-11	ELECT	220uF	20%	10V
C913	1-126-933-11	ELECT	100uF	20%	10V
		< CONNECTOR >			
CN901	1-564-510-11	PLUG, CONNECTOR 7P			
		< DIODE >			
D901	8-719-046-07	DIODE 2A02M			
D902	8-719-046-07	DIODE 2A02M			
D903	8-719-046-07	DIODE 2A02M			
D904	8-719-046-07	DIODE 2A02M			
D905	8-719-991-33	DIODE 1SS133T-77			
D906	8-719-991-33	DIODE 1SS133T-77			
D907	8-719-981-95	DIODE MTZJ-2.7B			
D908	8-719-110-14	DIODE RD9.1ES-B3			
D909	8-719-110-09	DIODE RD8.2ES-B3			
D910	8-719-991-33	DIODE 1SS133T-77			
D911	8-719-991-33	DIODE 1SS133T-77			
		< FUSE >			
⚠F901	1-532-505-31	FUSE (5A 250V) (AEP,IT,UK,E)			
⚠F901	1-533-420-11	FUSE ,GLASS CYLINDRICAL (DIA.5) (5A 125V)			
					(US, CND)
		< JACK >			
⚠J901	1-540-009-11	INLET, AC (∿ AC IN) (US,CND)			
⚠J901	1-526-838-11	INLET, AC 2P (∿ AC IN) (AEP,IT,UK,E)			
		< TRANSISTOR >			
Q901	8-729-209-15	TRANSISTOR 2SD2012			
Q902	8-729-209-15	TRANSISTOR 2SD2012			

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
⚠R901	1-211-757-11	FUSIBLE	1	5%	1/2W F
⚠R902	1-211-757-11	FUSIBLE	1	5%	1/2W F
R903	1-249-410-11	CARBON	270	5%	1/4W F
R904	1-249-414-11	CARBON	560	5%	1/4W F
R905	1-249-421-11	CARBON	2.2K	5%	1/4W F

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Ref. No.	Part No.	Description	Remarks
*	1-666-862-11	RETAINER BOARD (US,CND) ***************	
*	1-666-862-21	RETAINER BOARD (AEP,IT,UK,E) ***************	

****

Ref. No.	Part No.	Description	Remarks
*	1-662-742-11	SW BOARD ********	
		< CONNECTOR >	
CN691	1-580-170-11	PIN,CONNECTOR (PC BOARD) 9P	
		< PHOTO INTERUPTER >	
PH691	1-801-455-11	PHOTO REFLECTOR	
		< PLUNGER SOLENOID >	
PM691	1-454-806-11	SOLENOID, PLUNGER	
		< RESISTOR >	
R691	1-247-822-11	RES,CARBON (SMALL) 430	
		< SWITCH >	
S691	1-762-811-11	SWITCH,LEAF (HALF)	
S692	1-762-811-11	SWITCH,LEAF (CrO2)	
S694	1-762-811-11	SWITCH,LEAF (ERASE PROOF A)	
S695	1-762-811-11	SWITCH,LEAF (ERASE PROOF B)	
S696	1-762-810-11	SWITCH,LEAF (HEAD POSITION)	

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Ref. No.	Part No.	Description	Remarks
*	A-3321-154-A	SWITCH BOARD, COMPLETE (US,CND,E) ***********************	
*	A-3321-191-A	SWITCH BOARD, COMPLETE (AEP,IT,UK) ***********************	
	1-782-632-11	WIRE, PARALLEL (FFC) (12 CORE)	
		< CONNECTOR >	
* CN805	1-695-373-31	PIN, CONNECTOR (PC BOARD) 12P	
		< DIODE >	
D805	8-719-067-05	DIODE SLR-342MGTC7 (CD ▶II)	
D806	8-719-067-05	DIODE SLR-342MGTC7 (CD ■)	
D807	8-719-067-05	DIODE SLR-342MGTC7 (RADIO BOARD)	
D808	8-719-067-05	DIODE SLR-342MGTC7 (PRESET(+))	
D809	8-719-067-05	DIODE SLR-342MGTC7 (TAPE ■)	
D810	8-719-067-05	DIODE SLR-342MGTC7 (TAPE ▶)	
D811	8-719-058-48	DIODE SLR-342VRTH7 (OPR/BATT)	
		< IC >	
IC802	8-742-012-11	HY B IC SBX1976-51	

Ref. No.	Part No.	Description			Remarks
		< RESISTOR >			
R862	1-249-425-11	CARBON	4.7K	5%	1/4W F
R863	1-249-415-11	CARBON	680	5%	1/4W F
R864	1-249-416-11	CARBON	820	5%	1/4W F
R865	1-249-418-11	CARBON	1.2K	5%	1/4W F
R866	1-249-420-11	CARBON	1.8K	5%	1/4W F
R867	1-247-843-11	CARBON	3.3K	5%	1/4W
R869	1-249-427-11	CARBON	6.8K	5%	1/4W F
R870	1-249-432-11	CARBON	18K	5%	1/4W
R871	1-249-425-11	CARBON	4.7K	5%	1/4W F
R872	1-249-415-11	CARBON	680	5%	1/4W F
R873	1-249-416-11	CARBON	820	5%	1/4W F
R874	1-249-418-11	CARBON	1.2K	5%	1/4W F
R875	1-249-420-11	CARBON	1.8K	5%	1/4W F
R876	1-247-843-11	CARBON	3.3K	5%	1/4W
R877	1-249-427-11	CARBON	6.8K	5%	1/4W F
R878	1-249-432-11	CARBON	18K	5%	1/4W
R879	1-249-425-11	CARBON	4.7K	5%	1/4W F
R880	1-249-415-11	CARBON	680	5%	1/4W F
R881	1-249-416-11	CARBON	820	5%	1/4W F
R882	1-249-418-11	CARBON	1.2K	5%	1/4W F
R883	1-249-420-11	CARBON	1.8K	5%	1/4W F
R884	1-247-843-11	CARBON	3.3K	5%	1/4W
R885	1-249-427-11	CARBON	6.8K	5%	1/4W F
R886	1-249-410-11	CARBON	270	5%	1/4W F
R887	1-249-432-11	CARBON	18K	5%	1/4W
R893	1-249-407-11	CARBON	150	5%	1/4W F
R895	1-249-407-11	CARBON	150	5%	1/4W F

Ref. No.	Part No.	Description	Remarks
		< SWITCH >	
S809	1-692-014-11	SWITCH, KEY BOARD (POWER)	
S810	1-692-014-11	SWITCH, KEY BOARD (TMER)	
S811	1-692-014-11	SWITCH, KEY BOARD (CD ▶II)	
S812	1-692-014-11	SWITCH, KEY BOARD (CD ■)	
S813	1-692-014-11	SWITCH, KEY BOARD (DISPLAY/ENTER)	
S814	1-692-014-11	SWITCH, KEY BOARD (EDIT)	
S815	1-692-014-11	SWITCH, KEY BOARD (VOL(–))	
S816	1-692-014-11	SWITCH, KEY BOARD (VOL(+))	
S817	1-692-014-11	SWITCH, KEY BOARD (RADIO BAND)	
S818	1-692-014-11	SWITCH, KEY BOARD (PRESET(–))	
S819	1-692-014-11	SWITCH, KEY BOARD (PRESET(+))	
S820	1-692-014-11	SWITCH, KEY BOARD (TUNER(–))	
S821	1-692-014-11	SWITCH, KEY BOARD (TUNER(+))	
S822	1-692-014-11	SWITCH, KEY BOARD (TC-AMS(+))	
S823	1-692-014-11	SWITCH, KEY BOARD (TC-AMS(–))	
S825	1-692-014-11	SWITCH, KEY BOARD (TAPE ▶)	
S826	1-692-014-11	SWITCH, KEY BOARD (TAPE ◀)	
S827	1-692-014-11	SWITCH, KEY BOARD (TAPE ■)	
S828	1-692-014-11	SWITCH, KEY BOARD (●/II)	
S829	1-692-014-11	SWITCH, KEY BOARD (DIR/MODE)	
S830	1-692-014-11	SWITCH, KEY BOARD (COUNTER RESET)	

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Ref. No.	Part No.	Description			Remarks
*	A-3293-842-A	TC BOARD, COMPLETE (US,CND)			
		*******************			
*	A-3293-869-A	TC BOARD, COMPLETE (AEP,IT,UK,E)			
		*******************			
		< CAPACITOR >			
C401	1-130-481-00	MYLAR	0.0068uF	5%	50V
					(AEP,IT,UK,E)
C401	1-130-482-00	MYLAR	0.0082uF	5%	50V
					(US,CND)
C402	1-130-469-00	MYLAR	680PF	5%	50V
					(US,CND)
C402	1-130-471-00	MYLAR	0.001uF	5%	50V
					(AEP,IT,UK,E)
C403	1-130-471-00	MYLAR	0.001uF	5%	50V
C404	1-126-967-11	ELECT	47uF	20%	10V
C405	1-162-306-11	CERAMIC	0.01uF	30%	16V
C406	1-130-481-00	MYLAR	0.0068uF	5%	50V
C407	1-130-479-00	MYLAR	0.0047uF	5%	50V
C408	1-162-306-11	CERAMIC	0.01uF	30%	16V
					(US,CND)
C409	1-162-306-11	CERAMIC	0.01uF	30%	16V
					(US,CND)
C410	1-126-963-11	ELECT	4.7uF	20%	50V
C411	1-126-934-11	ELECT	220uF	20%	10V
C412	1-126-967-11	ELECT	47uF	20%	10V
C413	1-161-020-11	CERAMIC	0.039uF	10%	25V
C414	1-126-964-11	ELECT	10uF	20%	50V
C415	1-126-966-11	ELECT	33uF	20%	16V
C416	1-126-964-11	ELECT	10uF	20%	50V
C417	1-126-967-11	ELECT	47uF	20%	10V
C418	1-126-967-11	ELECT	47uF	20%	10V
C419	1-126-967-11	ELECT	47uF	20%	10V
					(AEP,IT,UK,E)
C420	1-126-967-11	ELECT	47uF	20%	10V
					(AEP,IT,UK,E)
C499	1-136-165-00	FILM	0.1uF	5%	50V
C501	1-162-301-11	CERAMIC	0.0015uF	20%	16V
C502	1-126-967-11	ELECT	47uF	20%	10V
C503	1-161-020-11	CERAMIC	0.039uF	10%	25V
C504	1-162-301-11	CERAMIC	0.0015uF	30%	16V
C505	1-126-963-11	ELECT	4.7uF	20%	50V
C506	1-126-959-11	ELECT	0.47uF	20%	50V
C508	1-126-963-11	ELECT	4.7uF	20%	50V
C509	1-126-964-11	ELECT	10uF	20%	50V
C510	1-162-282-31	CERAMIC	100PF	10%	50V
C601	1-162-301-11	CERAMIC	0.0015uF	20%	16V
C602	1-126-967-11	ELECT	47uF	20%	10V
C603	1-161-020-11	CERAMIC	0.039uF	10%	25V
C604	1-162-301-11	CERAMIC	0.0015uF	30%	16V
C605	1-126-963-11	ELECT	4.7uF	20%	50V
C606	1-126-959-11	ELECT	0.47uF	20%	50V
C608	1-126-963-11	ELECT	4.7uF	20%	50V
C609	1-126-964-11	ELECT	10uF	20%	50V
C610	1-162-282-31	CERAMIC	100PF	10%	50V
		< CONNECTOR >			
* CN401	1-695-337-31	PIN, CONNECTOR (PC BOARD) 14P			
CN402	1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P			

Ref. No.	Part No.	Description				Remarks
		< DIODE >				
D401	8-719-991-33	DIODE	1SS133T-77			
D402	8-719-991-33	DIODE	1SS133T-77			
D403	8-719-991-33	DIODE	1SS133T-77			
		< IC >				
IC401	8-759-264-71	IC	TA2068N			
		< COIL >				
L501	1-414-146-31	INDUCTOR	2.2uH			
L502	1-414-146-31	INDUCTOR	2.2uH			
L601	1-414-146-31	INDUCTOR	2.2uH			
L602	1-414-146-31	INDUCTOR	2.2uH			
		< TRANSISTOR >				
Q401	8-729-036-80	TRANSISTOR	KRC110M			
Q402	8-729-036-80	TRANSISTOR	KRC110M			
Q403	8-729-036-86	TRANSISTOR	KTC3203Y-AT			
Q405	8-729-115-80	TRANSISTOR	BA1A4P			
Q406	8-729-115-80	TRANSISTOR	BA1A4P			
Q408	8-729-036-86	TRANSISTOR	KTC3203Y-AT			
Q409	8-729-036-86	TRANSISTOR	KTC3203Y-AT			
Q410	8-729-037-02	TRANSISTOR	KTA1266Y-AT			
Q411	8-729-115-80	TRANSISTOR	BA1A4P			
Q413	8-729-037-02	TRANSISTOR	KTA1266Y-AT			
		< RESISTOR >				
R401	1-249-393-11	CARBON	10	5%	1/4W	F
R402	1-249-401-11	CARBON	47	5%	1/4W	F
R403	1-249-429-11	CARBON	10K	5%	1/4W	
R404	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R405	1-249-393-11	CARBON	10	5%	1/4W	F
R406	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R407	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R408	1-249-441-11	CARBON	100K	5%	1/4W	
R409	1-247-791-91	CARBON	22	5%	1/4W	
R410	1-249-429-11	CARBON	10K	5%	1/4W	
R411	1-249-429-11	CARBON	10K	5%	1/4W	
R412	1-247-843-11	CARBON	3.3K	5%	1/4W	
R413	1-247-843-11	CARBON	3.3K	5%	1/4W	
R414	1-247-843-11	CARBON	3.3K	5%	1/4W	
R416	1-247-903-00	CARBON	1M	5%	1/4W	
R417	1-249-437-11	CARBON	47K	5%	1/4W	
R418	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R419	1-249-417-11	CARBON	1K	5%	1/4W	F
						(AEP,IT,UK,E)
R420	1-249-417-11	CARBON	1K	5%	1/4W	F
						(AEP,IT,UK,E)
R501	1-249-431-11	CARBON	15K	5%	1/4W	
R502	1-249-403-11	CARBON	68	5%	1/4W	F
R503	1-249-440-11	CARBON	82K	5%	1/4W	
R504	1-247-843-11	CARBON	3.3K	5%	1/4W	
R505	1-249-417-11	CARBON	1K	5%	1/4W	F
R506	1-249-417-11	CARBON	1K	5%	1/4W	F
R601	1-249-431-11	CARBON	15K	5%	1/4W	
R602	1-249-403-11	CARBON	68	5%	1/4W	F
R603	1-249-440-11	CARBON	82K	5%	1/4W	
R604	1-247-843-11	CARBON	3.3K	5%	1/4W	
R605	1-249-417-11	CARBON	1K	5%	1/4W	F

TC TERMINAL TUNER

Ref. No.	Part No.	Description			Remarks
R606	1-249-417-11	CARBON	1K	5%	1/4W F
		< TRANSFORMER >			
T401	1-433-372-11	TRANSFORMER, BIAS OSCILLATION			
**					
*	1-666-855-11	TERMINAL BOARD (US,CND)			
		***************			
*	1-666-855-21	TERMINAL BOARD (AEP,IT,UK,E)			
		***************			
		< CAPACITOR >			
C421	1-162-294-31	CERAMIC	0.001uF	10%	50V
C441	1-126-964-11	ELECT	10uF	20%	50V
C442	1-162-851-11	CERAMIC	0.1uF	10%	16V
		< CONNECTOR >			
CN441	1-564-723-11	PIN, CONNECTOR (SMALL TYPE) 7P			
* CN442	1-564-719-11	PIN, CONNECTOR (SMALL TYPE) 3P			
		< DIODE >			
D441	8-719-067-15	DIODE SLR-342MGTH7 (MD LINE)			
		< FERRITE BEAD >			
FB401	1-410-397-21	FERRITE BEAD INDUCTOR			
		< IC >			
IC441	8-749-921-12	IC GP1F32T			
		< JACK >			
J441	1-566-891-21	JACK (LINE IN)			
J442	1-566-891-21	JACK (LINE OUT)			
		< COIL >			
L401	1-410-509-11	INDUCTOR	10uH		
L402	1-410-509-11	INDUCTOR	10uH		
		< RESISTOR >			
R441	1-249-407-11	CARBON	150	5%	1/4W F
		< SWITCH >			
S441	1-570-940-11	SWITCH, KEY BOARD (MD LINE)			
**					
*	A-3321-151-A	TUNER BOARD, COMPLETE (US,CND)			
		**********************			
	1-533-313-11	HOLDER, FUSE			
		< CAPACITOR >			
C2	1-162-294-31	CERAMIC	0.001uF	10%	50V
C3	1-162-306-11	CERAMIC	0.01uF	30%	16V
C4	1-102-514-11	CERAMIC	22PF	5%	50V
C5	1-162-203-31	CERAMIC	15PF	5%	50V
C7	1-161-055-00	CERAMIC	0.022uF	10%	50V
C8	1-162-201-31	CERAMIC	12PF	5%	50V
C9	1-102-821-00	CERAMIC	360PF	5%	50V
C10	1-162-851-11	CERAMIC	0.1uF		16V
C11	1-102-820-00	CERAMIC	330PF	5%	50V
C12	1-126-964-11	ELECT	10uF	20%	50V
C13	1-162-306-11	CERAMIC	0.01uF	30%	16V
C14	1-161-061-11	CERAMIC	0.068uF	10%	50V
C15	1-161-024-00	CERAMIC	0.082uF	10%	25V
C16	1-161-024-00	CERAMIC	0.082uF	10%	25V
C17	1-126-963-11	ELECT	4.7uF	20%	50V
C18	1-126-967-11	ELECT	47uF	20%	16V
C19	1-162-306-11	CERAMIC	0.01uF	30%	16V
C22	1-162-306-11	CERAMIC	0.01uF	30%	16V
C23	1-161-055-00	CERAMIC	0.022uF	10%	50V
C24	1-161-055-00	CERAMIC	0.022uF	10%	50V
C26	1-162-306-11	CERAMIC	0.01uF	30%	16V
C27	1-104-666-11	ELECT	220uF	20%	25V
C28	1-126-963-11	ELECT	4.7uF	20%	50V
C29	1-126-963-11	ELECT	4.7uF	20%	50V
C44	1-161-051-00	CERAMIC	0.01uF	10%	50V
C45	1-136-177-00	FILM	1uF	5%	50V
C46	1-126-964-11	ELECT	10uF	20%	50V
C47	1-162-306-11	CERAMIC	0.01uF	30%	16V
C48	1-126-964-11	ELECT	10uF	20%	50V
C49	1-162-306-11	CERAMIC	0.01uF	30%	16V
C50	1-162-294-31	CERAMIC	0.001uF	10%	50V
C51	1-162-294-31	CERAMIC	0.001uF	10%	50V
C53	1-162-294-31	CERAMIC	0.001uF	10%	50V
C54	1-102-518-11	CERAMIC	33PF	5%	50V
C55	1-162-199-31	CERAMIC	10PF	5%	50V
C57	1-162-282-31	CERAMIC	100PF	10%	50V
C58	1-162-306-11	CERAMIC	0.01uF	30%	16V
C59	1-162-306-11	CERAMIC	0.01uF	30%	16V
C62	1-162-294-31	CERAMIC	0.001uF	10%	50V
C63	1-162-306-11	CERAMIC	0.01uF	30%	16V
C64	1-162-198-31	CERAMIC	8.2PF	10%	50V
C66	1-161-051-00	CERAMIC	0.01uF	10%	50V
C67	1-162-294-31	CERAMIC	0.001uF	10%	50V
C68	1-162-215-31	CERAMIC	47PF	5%	50V
C69	1-162-306-11	CERAMIC	0.01uF	30%	16V
C71	1-162-294-31	CERAMIC	0.001uF	10%	50V
C72	1-162-294-31	CERAMIC	0.001uF	10%	50V
C73	1-136-177-00	FILM	1uF	5%	50V
C74	1-162-306-11	CERAMIC	0.01uF	30%	16V
		< FILTER >			
CF1	1-760-127-11	FILTER, CERAMIC			
CF2	1-760-127-11	FILTER, CERAMIC			
CF3	1-760-127-11	FILTER, CERAMIC			
CF4	1-579-762-11	VIBRATOR, CERAMIC			
		< COMPOSITION CIRCUIT BLOCK >			
CFT1	1-239-173-11	ENCAPSULATED COMPONENT			
		< CONNECTOR >			
* CN1	1-695-374-31	PIN, CONNECTOR (PC BOARD) 13P			

Ref. No.	Part No.	Description			Remarks
		< TRIMMER >			
CT1	1-141-411-11	CAP, ADJ 20PF			
CT2	1-141-411-11	CAP, ADJ 20PF			
		< DIODE >			
D1	8-719-050-72	DIODE KV1370NT			
D2	8-719-050-72	DIODE KV1370NT			
D3	8-719-050-69	DIODE KV1520N			
D6	8-719-991-33	DIODE 1SS133T-77			
D7	8-719-991-33	DIODE 1SS133T-77			
		< FILTER >			
FL1	1-236-022-11	FILTER, BAND PASS			
		< IC >			
IC1	8-759-386-02	IC TA2008AN			
IC3	8-759-290-61	IC BU2615S			
		< JUMPER RESISTOR >			
JW22	1-249-421-11	CARBON	2.2K	5%	1/4W F
		< COIL >			
L1	1-409-905-31	COIL, FM RF			
L2	1-409-905-31	COIL, FM RF			
L3	1-501-762-11	ANTENNA, FERRITE-ROD (MW)			
L4	1-411-234-21	COIL, AM OSC			
L5	1-410-336-11	INDUCTOR 220uH			
L7	1-410-336-11	INDUCTOR 220uH			
L8	1-410-509-11	INDUCTOR 10uH			
		< TRANSISTOR >			
Q1	8-729-115-80	TRANSISTOR BA1A4P			
Q2	8-729-115-80	TRANSISTOR BA1A4P			
Q3	8-729-115-80	TRANSISTOR BA1A4P			
Q4	8-729-115-80	TRANSISTOR BA1A4P			
Q15	8-729-422-57	TRANSISTOR UN4111			
Q17	8-729-012-83	TRANSISTOR 2SK679A			
Q18	8-729-922-66	TRANSISTOR 2SC2410SN			
Q19	8-729-106-07	TRANSISTOR 2SK514-H			
		< RESISTOR >			
R1	1-249-441-11	CARBON	100K	5%	1/4W
R2	1-247-887-00	CARBON	220K	5%	1/4W
R3	1-249-431-11	CARBON	15K	5%	1/4W
R4	1-249-429-11	CARBON	10K	5%	1/4W
R5	1-249-428-11	CARBON	8.2	5%	1/4W F
R6	1-247-887-00	CARBON	220K	5%	1/4W
R7	1-249-411-11	CARBON	330	5%	1/4W
R8	1-247-863-91	CARBON	22K	5%	1/4W
R9	1-249-421-11	CARBON	2.2K	5%	1/4W F
R10	1-249-425-11	CARBON	4.7K	5%	1/4W F
R11	1-247-815-91	CARBON	220	5%	1/4W
R14	1-247-807-31	CARBON	100	5%	1/4W
R18	1-249-417-11	CARBON	1K	5%	1/4W F
R19	1-249-417-11	CARBON	1K	5%	1/4W F
R25	1-249-429-11	CARBON	10K	5%	1/4W

Ref. No.	Part No.	Description			Remarks
R26	1-249-425-11	CARBON	4.7K	5%	1/4W F
R27	1-249-429-11	CARBON	10K	5%	1/4W
R28	1-249-437-11	CARBON	47K	5%	1/4W
R29	1-249-415-11	CARBON	680	5%	1/4W F
R30	1-249-412-11	CARBON	390	5%	1/4W F
R35	1-249-417-11	CARBON	1K	5%	1/4W F
R35	1-249-421-11	CARBON	2.2K	5%	1/4W F
R37	1-249-429-11	CARBON	10K	5%	1/4W
R38	1-249-421-11	CARBON	2.2K	5%	1/4W F
R39	1-249-429-11	CARBON	10K	5%	1/4W
R40	1-249-429-11	CARBON	10K	5%	1/4W
R41	1-249-417-11	CARBON	1K	5%	1/4W F
R42	1-249-417-11	CARBON	1K	5%	1/4W F
R43	1-249-437-11	CARBON	47K	5%	1/4W
R46	1-249-437-11	CARBON	47K	5%	1/4W
R55	1-249-421-11	CARBON	2.2K	5%	1/4W F
R56	1-249-407-11	CARBON	150	5%	1/4W F
R57	1-249-399-11	CARBON	33	5%	1/4W F
R58	1-249-411-11	CARBON	330	5%	1/4W
R59	1-249-437-11	CARBON	47K	5%	1/4W
R60	1-249-425-11	CARBON	4.7K	5%	1/4W F
R66	1-249-437-11	CARBON	47K	5%	1/4W
		< VIBRATOR >			
X1	1-760-130-11	VIBRATOR, CRYSTAL (75kHz)			

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*	A-3321-189-A	TUNER BOARD, COMPLETE (AEP,IT,UK,E)			
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	1-533-313-11	HOLDER, FUSE			
		< CAPACITOR >			
C1	1-162-294-31	CERAMIC	0.001uF	10%	50V
C2	1-162-306-11	CERAMIC	0.01uF	30%	16V
C3	1-102-960-00	CERAMIC	24PF	5%	50V
C4	1-162-203-31	CERAMIC	15PF	5%	50V
C5	1-101-005-00	CERAMIC	22000PF		50V
C6	1-101-005-00	CERAMIC	22000PF		50V
C7	1-161-055-00	CERAMIC	0.022uF	10%	50V
C8	1-162-195-31	CERAMIC	4.7PF	10%	50V
C9	1-102-973-00	CERAMIC	100PF	5%	50V
C10	1-102-823-11	CERAMIC	430PF	5%	50V
C11	1-162-199-31	CERAMIC	10PF	5%	50V
C12	1-136-013-11	FILM	360PF	5%	50V
C14	1-162-851-11	CERAMIC	0.1uF		16V
C15	1-161-494-00	CERAMIC	0.022uF		25V
C16	1-126-963-11	ELECT	4.7uF	20%	50V
C17	1-162-288-31	CERAMIC	330PF	10%	50V
C18	1-162-306-11	CERAMIC	0.01uF	30%	16V
C19	1-126-964-11	ELECT	10uF	20%	50V
C20	1-162-849-11	CERAMIC	0.068uF	10%	16V
C21	1-162-850-11	CERAMIC	0.082uF	10%	16V
C22	1-162-850-11	CERAMIC	0.082uF	10%	16V
C23	1-161-053-00	CERAMIC	0.015uF	10%	50V
C24	1-161-053-00	CERAMIC	0.015uF	10%	50V
C25	1-162-306-11	CERAMIC	0.01uF	30%	16V
C26	1-162-306-11	CERAMIC	0.01uF	30%	16V

TUNER

Ref. No.	Part No.	Description			Remarks
C27	1-126-933-11	ELECT	100uF	20%	10V
C28	1-102-518-11	CERAMIC	33PF	5%	50V
C29	1-162-199-31	CERAMIC	10PF	5%	50V
C30	1-162-306-11	CERAMIC	0.01uF	30%	16V
C31	1-162-306-11	CERAMIC	0.01uF	30%	16V
C32	1-162-306-11	CERAMIC	0.01uF	30%	16V
C33	1-162-306-11	CERAMIC	0.01uF	30%	16V
C34	1-162-294-31	CERAMIC	0.001uF	10%	50V
C35	1-162-294-31	CERAMIC	0.001uF	10%	50V
C36	1-162-294-31	CERAMIC	0.001uF	10%	50V
C37	1-126-964-11	ELECT	10uF	20%	50V
C38	1-162-306-11	CERAMIC	0.01uF	30%	16V
C39	1-126-964-11	ELECT	10uF	20%	50V
C40	1-162-306-11	CERAMIC	0.01uF	30%	16V
C41	1-136-177-00	FILM	1uF	5%	50V
C42	1-130-483-00	MYLAR	0.01uF	5%	50V
C44	1-126-963-11	ELECT	4.7uF	20%	50V
C45	1-126-963-11	ELECT	4.7uF	20%	50V
C52	1-162-306-11	CERAMIC	0.01uF	30%	16V
C53	1-162-306-11	CERAMIC	0.01uF	30%	16V
C55	1-162-306-11	CERAMIC	0.01uF	30%	16V
C56	1-162-306-11	CERAMIC	0.01uF	30%	16V
C59	1-162-306-11	CERAMIC	0.01uF	30%	16V
C60	1-162-282-31	CERAMIC	100PF	10%	50V
C61	1-162-306-11	CERAMIC	0.01uF	30%	16V
C63	1-162-294-31	CERAMIC	0.001uF	10%	50V
C64	1-162-294-31	CERAMIC	0.001uF	10%	50V
C67	1-162-195-31	CERAMIC	4.7PF	10%	50V
C68	1-162-306-11	CERAMIC	0.01uF	30%	16V
C69	1-162-215-31	CERAMIC	47PF	5%	50V
C71	1-126-933-11	ELECT	100uF	20%	16V
C72	1-162-306-11	CERAMIC	0.01uF	30%	16V
C80	1-162-294-31	CERAMIC	0.001uF	10%	50V
C81	1-162-306-11	CERAMIC	0.01uF	30%	16V
		< FILTER >			
CF1	1-760-468-11	FILTER, CERAMIC			
CF2	1-760-468-11	FILTER, CERAMIC			
CF3	1-760-468-11	FILTER, CERAMIC			
CF4	1-579-762-11	VIBRATOR, CERAMIC			
		< COMPOSITION CIRCUIT BLOCK >			
CFT1	1-239-173-11	ENCAPSULATED COMPONENT			
		< CONNECTOR >			
* CN1	1-695-374-31	PIN, CONNECTOR (PC BOARD) 13P			
		< TRIMMER >			
CT1	1-141-411-11	CAP, ADJ 20PF			
CT2	1-141-411-11	CAP, ADJ 20PF			
CT3	1-141-459-11	CAP, TRIMMER (SEAL TYPE) 45PF			
CT4	1-141-486-11	CAP, ADJ 10PF			
CT5	1-141-411-11	CAP, ADJ 20PF			

Ref. No.	Part No.	Description			Remarks
		< DIODE >			
D1	8-719-991-33	DIODE 1SS133T-77			
D2	8-719-991-33	DIODE 1SS133T-77			
D3	8-719-050-72	DIODE KV1370NT			
D4	8-719-050-72	DIODE KV1370NT			
D5	8-719-050-69	DIODE KV1520N			
		< FILTER >			
FL1	1-236-022-11	FILTER, BAND PASS			
		< IC >			
IC1	8-759-386-02	IC TA2008AN			
IC2	8-759-290-61	IC BU2615S			
		< COIL >			
L1	1-409-905-11	COIL, FM RF			
L2	1-409-904-11	COIL, FM OSC			
L3	1-501-752-11	ANTENNA, FERRITE-ROD (LW.MW)			
L4	1-411-199-31	COIL, MW/LW OSC			
L6	1-410-336-11	INDUCTOR	220uH		
L7	1-410-521-11	INDUCTOR	100uH		
L11	1-410-517-11	INDUCTOR	47uH		
L20	1-410-509-11	INDUCTOR	10uH		
		< TRANSISTOR >			
Q1	8-729-119-32	TRANSISTOR 2SK193			
Q2	8-729-922-66	TRANSISTOR 2SC2410SN			
Q3	8-729-922-66	TRANSISTOR 2SC2410SN			
Q4	8-729-905-50	TRANSISTOR DTC343TS			
Q5	8-729-178-62	TRANSISTOR 2SC2786-L			
Q6	8-729-922-66	TRANSISTOR 2SC2410SN			
Q9	8-729-029-72	TRANSISTOR DTC114YS-TP			
Q10	8-729-029-72	TRANSISTOR DTC114YS-TP			
Q11	8-729-029-72	TRANSISTOR DTC114YS-TP			
Q12	8-729-029-72	TRANSISTOR DTC114YS-TP			
Q13	8-729-012-83	TRANSISTOR 2SK679A			
Q14	8-729-106-07	TRANSISTOR 2SK514-H			
Q15	8-729-029-72	TRANSISTOR DTC114YS-TP			
Q16	8-729-029-72	TRANSISTOR DTC114YS-TP			
Q17	8-729-902-80	TRANSISTOR DTA114YS			
Q18	8-729-029-72	TRANSISTOR DTC114YS-TP			
Q21	8-729-422-57	TRANSISTOR UN4111			
Q22	8-729-422-57	TRANSISTOR UN4111			
Q23	8-729-922-66	TRANSISTOR 2SC2410SN			
		< RESISTOR >			
R1	1-247-887-00	CARBON	220K	5%	1/4W
R2	1-249-441-11	CARBON	100K	5%	1/4W
R3	1-249-431-11	CARBON	15K	5%	1/4W
R4	1-249-413-11	CARBON	470	5%	1/4W F
R5	1-249-417-11	CARBON	1K	5%	1/4W F
R6	1-249-425-11	CARBON	4.7K	5%	1/4W F
R7	1-249-425-11	CARBON	4.7K	5%	1/4W F
R9	1-249-425-11	CARBON	4.7K	5%	1/4W F
R10	1-249-429-11	CARBON	10K	5%	1/4W
R11	1-247-887-00	CARBON	220K	5%	1/4W

Ref. No.	Part No.	Description			Remarks	
R12	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R13	1-247-807-31	CARBON	100	5%	1/4W	
R14	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R19	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R20	1-247-863-91	CARBON	22K	5%	1/4W	
R21	1-249-404-00	CARBON	82	5%	1/4W	F
R22	1-249-429-11	CARBON	10K	5%	1/4W	
R23	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R24	1-249-429-11	CARBON	10K	5%	1/4W	
R25	1-249-429-11	CARBON	10K	5%	1/4W	
R26	1-249-417-11	CARBON	1K	5%	1/4W	F
R27	1-249-417-11	CARBON	1K	5%	1/4W	F
R28	1-249-429-11	CARBON	10K	5%	1/4W	
R29	1-249-429-11	CARBON	10K	5%	1/4W	
R34	1-249-415-11	CARBON	680	5%	1/4W	F
R35	1-249-412-11	CARBON	390	5%	1/4W	F
R36	1-249-437-11	CARBON	47K	5%	1/4W	
R37	1-249-417-11	CARBON	1K	5%	1/4W	F
R38	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R39	1-249-429-11	CARBON	10K	5%	1/4W	
R40	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R42	1-249-437-11	CARBON	47K	5%	1/4W	
R43	1-249-437-11	CARBON	47K	5%	1/4W	
R44	1-249-429-11	CARBON	10K	5%	1/4W	
R49	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R50	1-249-417-11	CARBON	1K	5%	1/4W	F
R51	1-249-441-11	CARBON	100K	5%	1/4W	
R52	1-249-441-11	CARBON	100K	5%	1/4W	
R53	1-249-441-11	CARBON	100K	5%	1/4W	
R54	1-249-413-11	CARBON	470	5%	1/4W	F
R55	1-249-437-11	CARBON	47K	5%	1/4W	
R56	1-249-411-11	CARBON	330	5%	1/4W	
R57	1-247-791-91	CARBON	22	5%	1/4W	
R58	1-247-883-00	CARBON	150K	5%	1/4W	
R59	1-249-421-11	CARBON	2.2K	5%	1/4W	F
R60	1-249-407-11	CARBON	150	5%	1/4W	F
R70	1-247-887-00	CARBON	220K	5%	1/4W	
R71	1-247-815-91	CARBON	220	5%	1/4W	
R72	1-249-417-11	CARBON	1K	5%	1/4W	F
R73	1-249-417-11	CARBON	1K	5%	1/4W	F
R75	1-249-404-00	CARBON	82	5%	1/4W	F
R77	1-249-429-11	CARBON	10K	5%	1/4W	
		< VIBRATOR >				
X1	1-760-130-11	VIBRATOR, CRYSTAL (75kHz)				

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Ref. No.	Part No.	Description	Remarks
		MISCELLANEOUS	
		***************	
5	1-505-742-11	SPEAKER (8CM)	
6	1-501-480-11	ANTENNA, TELESCOPIC	
103	1-692-960-11	SWITCH, PUSH (1 KEY)	
106	1-452-732-11	MAGNET	
117	1-782-631-11	WIRE, PARALLEL (FFC) (16 CORE)	
⚠151	8-848-483-05	OPTICAL, PIC-UP KSS-213C/Q-RP	
HRPE101	1-500-480-11	HEAD, MAGNETIC (REC/PB/ERASE)	
J301	1-566-891-11	JACK (H/P JACK)	
M691	X-3374-291-1	MOTOR ASSY	
M702	X-2625-769-1	GEAR ASSY (MB), MOTOR	
⚠T901	1-431-483-11	TRANSFORMER, POWER (US,CND)	
⚠T901	1-431-484-11	TRANSFORMER, POWER (AEP,IT,UK,E)	

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Ref. No.	Part No.	Description	Remarks
		ACCESSORIES & PACKING MATERIALS	
		********************************	
⚠	1-590-147-11	CORD, POWER (CND)	
⚠	1-690-952-21	CORD, POWER (US)	
⚠	1-696-820-21	CORD, POWER (AEP,IT,UK,E)	
⚠	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (UK)	
	3-704-222-11	LABEL, SERIAL NUMBER (PRINTER)	
	3-860-693-11	MANUAL, INSTRUCTION (US,CND) (ENGLISH)	
	3-860-693-21	MANUAL, INSTRUCTION (CND) (FRENCH)	
	3-860-693-31	MANUAL, INSTRUCTION (AEP,UK,E) (ENGLISH,SPANISH)	
	3-860-693-41	MANUAL, INSTRUCTION (AEP,E) (FRENCH,GERMAN)	
	3-860-693-51	MANUAL, INSTRUCTION (AEP) (DUTCH,PORTUGUESE)	
	3-860-693-61	MANUAL, INSTRUCTION (AEP) (SWEDISH,FINNISH)	
	3-860-693-71	MANUAL, INSTRUCTION (IT) (ITALIAN)	
	4-991-047-01	LID, BATTERY CASE (FOR REMOTE COMMANDER)	
	8-917-611-90	REMOCON RMT-CD5AD SET (AEP,IT,UK,E)	
	8-917-612-90	REMOTE COMMANDER RMT-CD5A SET (US,CND)	

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Ref. No.	Part No.	Description	Remarks
		**************	
		HARDWARE LIST	
		**************	
#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3	
#2	7-685-535-14	SCREW +BTP 2.6X10 TYPE2 N-S	
#3	7-685-533-14	SCREW +BTP 2.6X6 TYPE2 N-S	
#4	7-682-549-09	SCREW +B 3X10	
#5	7-685-649-79	SCREW +BVTP 3X14 TYPE2 N-S	
#6	7-685-903-31	SCREW +PTPWH 3X10 TYPE2	
#7	7-685-533-19	SCREW +BTP 2.6X6 TYPE2 N-S	
#8	7-685-646-79	SCREW, TAPPING +BV 3X8	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

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ZS-D5

SONY®

SERVICE MANUAL

1998.11

US Model
Canadian Model
AEP Model
UK Model
E Model

SUPPLEMENT-1

File this supplement-1 with the Service Manual.

• The following parts are changed to the new parts from the serial numbers as described below.
The new and former parts have different colors.

(SPM-98011)

Destination	Serial No.
US Model	7136231 to
AEP Model	7136531 to
UK Model	7138299 to
E Model	7122176 to

☛ : indicates changed portion

Page	OLD				NEW			
	Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
64	1	X-3375-238-1	CABINET SUB ASSY, FRONT		1	X-3376-357-1 ☛	CABINET SUB ASSY, FRONT	
	2	X-3375-236-1	HOLDER SUB ASSY, JACK		2	X-3376-361-1 ☛	HOLDER SUB ASSY, JACK	
	4	X-3375-239-1	HOLDER SUB ASSY, CASSETTE		4	X-3376-359-1 ☛	HOLDER SUB ASSY, CASSETTE	
	13	3-017-456-11	BUTTON, POWER (US,CND,E)		13	3-017-456-41 ☛	BUTTON, POWER (US,E)	
	13	3-017-456-21	BUTTON, POWER (AEP,IT,UK)		13	3-017-456-51 ☛	BUTTON, POWER (AEP,UK)	
	14	X-3375-237-1	BUTTON SUB ASSY, CONTROL		14	X-3376-363-1 ☛	BUTTON SUB ASSY, CONTROL	
	15	3-017-457-01	BUTTON, VOLUME		15	3-017-457-11 ☛	BUTTON, VOLUME	

9-923-270-82

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